Table S1. List of tRNA-Gly^{GCC} from 246 species extracted from GtRNAdB (http://lowelab.ucsc.edu/GtRNAdb/)

Cladorhizidae_sp_MBARI_D1340-BT2_Csp_MBARI_ tRNA-Gly-GCC-1-5 Sponge

GCACT**GATG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCCGGTCAGTGCA

Acetobacterium_woodii_DSM_1030_Acet_wood_DSM_1030_tRNA-Gly-GCC-1-2 Eubacteriaceae

GCGGAAG**TG**GCTC**A**G**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGAG**TTCAA**ATCTCGTCTTCCGCTCCA

Acidobacterium_capsulatum_ATCC_51196_Acid_caps_ATCC_51196_tRNA-Gly-GCC-1-1 Acidobacteria

GCGGGAG**T**AGCTC**A**G**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGGG**TTCAAG**TCCCGTCTCCCGCTCCA

Aciduliprofundum_boonei_T469_Acid_boon_T469_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGGGTG**TG**GTGTAGCC**TGGTA**ACACGAGGCC**CTGCCA**CGGCTTTGcCCCGGG**TTCAA**ATCCCGGCACCCGCA

Agrobacterium_fabrum_str_C58_Agro_fabr_C58_tRNA-Gly-GCC-1-1 Proteobacteria

GCGGGTG**T**AGCTC**A**GG**GGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGAGGG**TTCAA**ATCCCTTCGCCCGCTCCA

Alkaliphilus_metalliredigens_QYMF_Alka_meta_QYMF_tRNA-Gly-GCC-1-1 Clostridiaceae bacteria

GCGGAAG**TG**GCTC**A**G**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGAG**TTCAA**ATCTCGTCTTCCGCTCCA

Alligator_mississippiensis_Amiss4_tRNA-Gly-GCC-4-2 Reptilia

GCACTGG**TG**GTTC**AATGGTA**GAATTCCTGCT**TGCCA**TGCAGGGGaCCTGGG**TTCAA**TTCCCAGCCAGTGCA

Aminobacterium_colombiense_DSM_12261_Amin_colo_DSM_12261_tRNA-Gly-GCC-1-1 Synergistota bacteria

GCGGAAG**T**AGCTC**A**GG**GGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Anaerobaculum_mobile_DSM_13181_Anae_mobi_DSM_13181_tRNA-Gly-GCC-1-1 Synergistota bacteria

GCGGAAG**T**AGCTC**A**GG**GGTA**GAGCACCACCT**TGCCA**AGGTGGGGGcCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Anaeromyxobacter_dehalogenans_2CP-1_Anae_deha_2CP_1_tRNA-Gly-GCC-1-1 Synergistota bacteria

GCGGGA**AT**AGCTCAG**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGAGGG**TTCAA**ATCCCTTTTCCCGCTCCA

Arabidopsis_thaliana_Athal10_tRNA-Gly-GCC-3-1 Plant

GCACCAG**TG**GTCT**A**G**TGGTA**GAATAGTACC**CTGCCA**CGGTACAGaCCCGGG**TTCAA**TTCCCGGCTGGTGCA

Archaeoglobus_fulgidus_DSM_4304_Arch_fulg_DSM_4304_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGCCG**ATG**GTGTAGCC**TGGTA**ACACAGGGGCTTGCCGAGCCC**CTGCC**CCGGG**TTCAA**ATCCCGGTCGGCGCA

Ascocoryne_sarcoides_NRRL_50072_Asco_sarc_NRRL_50072_tRNA-Gly-GCC-1-1 Helotiaceae Fungus

GCGTCGG**TG**GTTT**A**G**TGGTA**AAATCCATCGT**TGCCA**taagaatTTCAAttc**TTCAAG**cTCGATGGGcCCCGGGTTC

Azospirillum_sp_B510_Azos_B510_tRNA-Gly-GCC-2-1 Proteobacteria

GTATTT**A**A**G**CC**A**t**TGG**A**A**aATAACAATGTAT**TGCCA**ATTCGTAATCAgtAgGtCCGGGG**TTCAA**ATCCCTGTTGCG

Balaenoptera_acutorostrata_scammoni_Bacut1_tRNA-Gly-GCC-766-1 Mammals

GCATTGG**TG**GTTC**A**G**TGGTA**GAGTTCTTGC**CTGCCA**TGTGGGAGGCCAGGG**TTCAA**TTCCCCGCCAATGCA

Batrachochytrium_dendrobatidis_JAM81_Batr_dend_JAM81_tRNA-Gly-GCC-1-2 Fungus

GCGCTAG**TG**GTTT**A**G**TGGTA**AAATTCATCGT**TGCCA**TCGATGAGcCCCCGG**TTCAA**TTCCGGGCTAGCGCA

Bipolaris_sorokiniana_ND90Pr_Bipo_soro_ND90Pr_tRNA-Gly-GCC-1-3 Fungus

CATCGG**TG**GTTT**A**G**TGGTA**AAATTAGCCGT**TGCCA**tccactctggtcc**TTCAA**aggtcccagctggacaacgTCGGCT

Blattabacterium_sp_Blaberus_giganteus_BGIGA_Blat_Blaberus_giganteus_BGIGA_tRNA-Gly-GCC-1-1 Bacteroidetes

GCGAGA**AT**AGCTCAGT**TGGTA**GAGCACGACCT**TGCCA**AGGTCGGGGcCGCGGG**TTCAA**ATCCCGTTTCTCGCT

Blochmannia_endosymbiont_of_Camponotus_Colobopsis_obliquus_757_ tRNA-Gly-GCC-1-1 Gammaproteobacteria

GCGGGA**AT**AGCTCAGT**TGGTA**GAGTACAACCT**TGCCA**AGGTTGGGGtCGCGAG**TTCAAG**TCTCGTTTCCCGCT

Blumeria_graminis_f_sp_tritici_96224_Blum_gram_f_tritici_96224_tRNA-Gly-GCC-7-1 Fungus

GGTTGGA**TG**GTGCGG**TGGTA**cATCATcttGGCTGgT**CTGCCA**agtagagtctggatagcttggacacatatccca ctcgAGaCAGTAGAtCGCTGG**TTCAA**ATCCAGC

Borrelia_chilensis_VA1_Borr_chil_VA1_tRNA-Gly-GCC-1-1 Spirochaetaceae bacteria

GCGAAAG**T**AACTC**A**GG**GGTA**GAGTGTCACCT**TGCCA**AGGTGAAAGtCGCGGG**TTCAA**ATCCCGTCTTTCGCT

Bos_taurus_Btaur9_tRNA-Gly-GCC-3224-1 Mammals

TCCTAGG**TG**GCTC**AATGGTA**AAAATACTTGC**CTGCCA**aAGCAGGAGaCTCAGG**TTCAA**TCCCTGGTCCAGGAA

Botrytis_cinerea_B0510_Botr_cine_B05_10_tRNA-Gly-GCC-1-8 Fungus

GCGTTTG**TG**GTTT**A**G**TGGTA**AAATCCATCGT**TGCCA**tctatctcttcttga**TTCAAG**aagagtgagaaacaac

Branchiostoma_floridae_Bflor2_tRNA-Gly-GCC-2-1 Chordata

GCATCGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCCGGCCGATGCA

Buchnera_aphidicola_str_5A_Acyrthosiphon_pisum_Buch_aphi_5A_Acyrthosiphon_pisum_tRNA-Gly-GCC-1-1 Gammaproteobacteria

GCGGGA**AT**AGCTCAGT**TGGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGAG**TTCAAG**TCTCGTTTCCCGCTCCA

Caenorhabditis_brenneri_Cbren3_tRNA-Gly-GCC-5-1 Nematoda

GCATCGG**TG**GTTC**A**G**TGGTA**GAATGCTCGC**CTGCCA**CGCGGGCTGCCCGGG**TTCAA**TTCCCGGTCGATGCA

Caldivirga_maquilingensis_IC-167_Cald_maqu_IC_167_tRNA-Gly-GCC-1-1 Thermoproteota archaea

GCGGCCG**T**AGTCTAGTC**tGGT**ttAGGATGGCGGC**CTGCC**GCGCCGCAGAtCCCGGG**TTCAA**ATCCCGGCGGCCGCA

Callithrix_jacchus_Cjacc3_tRNA-Gly-GCC-4-1 Primates

GCATGGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGtCCTGGG**TTCAA**TCCCCGGCCCACGCA

Calothrix_sp_PCC_7507_Calo_PCC_7507_tRNA-Gly-GCC-2-1 Cyanobacteria

GCGGATG**TG**GTGT**AA**G**GG**CAACACCGGAGTA**TGCCA**AGCTCCAAaTGCGAG**TTCAA**CTCTCGTCGTCCGCT

Campylobacter_jejuni_subsp_doylei_26997_Camp_jeju_doylei_269_97_tRNA-Gly-GCC-2-1 Campylobacterota

GCGGGA**AT**AGCTC**A**GG**GGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGAG**TTCAA**ATCTCGCTAACCGCACCA

Candidatus_Azobacteroides_pseudotrichonymphae_genomovar_CFP2 _tRNA-Gly-GCC-1-1 Bacteroidetes

GCGAAA**AT**AGCTCAGT**TGGTA**GAGTATAACCT**TGCCA**AGGTTAGGGtCGCGGG**TTCAAG**TCCCGTTTTTCGCT

Candidatus_Baumannia_cicadellinicola_BGSS_Cand_Baum_cicadellinicola_BGSS_tRNA-Gly-GCC-1-1 Proteobacteria

GCGGGA**AT**AGCTCAG**TGGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGAG**TTCAA**ACCTCGTTTCCCGCTCCA

Candidatus_Blochmannia_chromaiodes_str_640_Cand_Bloc_chromaiodes_640_tRNA-Gly-GCC-1-1 Gammaproteobacteria

GCGGGA**AT**AGCTCAGT**TGG**G**A**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGAG**TTCAA**ATCTCGTTTCCCGCTCCA

Candidatus_Caedibacter_acanthamoebae_Cand_Caed_acanthamoebae_tRNA-Gly-GCC-1-1 Gammaproteobacteria

GCGGGCG**T**AGCTC**A**GG**GGTA**G**A**GCACAACCT**TGCCA**AGGTTGGGGtCGAGGG**TTCAA**ATCCCTTCGCCCGCTCCA

Candidatus_Caldiarchaeum_subterraneum_Cand_Cald_subterraneum_tRNA-Gly-GCC-1-1 Aigarchaeota

GCGGCGG**T**CGTCTAGCC**TGGTA**GGACACCAGC**CTGCCA**CGCTGGGAGtCGCGGG**TTCAA**ATCCCGCCCGCCGCA

Candidatus_Carsonella_ruddii_DC_Cand_Cars_ruddii_DC_tRNA-Gly-GCC-1-1 Gammaproteobacteria

GCGAAAG**T**ATCTT**AATGGTA**AAGTATCACCT**TGCCA**TGGTGAAAGtTGCGAG**TTCAAG**TCTCGTCTTTCGCT

Candidatus_Cloacimonas_acidaminovorans_str_Evry_Cand_Cloa_acidaminovorans_Evry_tRNA-Gly-GCC-2 Cloacimonetes bacteria

GCGGGA**AT**AGCTC**A**GT**TGG**CAGAGCGCAACCT**TGCCA**AGGTTGAAGtCGCGGG**TTCAA**ACCCCGTTTCCCGCTCCA

Candidatus_Endolissoclinum_faulkneri_L5_Cand_Endo_faulkneri_L5_tRNA-Gly-GCC-1-1 Alphaproteobacteria

GCGGGCG**T**AGCTC**A**G**TGGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGTGAG**TTCAAG**TCTCATCGTCCGCTCCA

Candidatus_Korarchaeum_cryptofilum_OPF8_Cand_Kora_cryptofilum_OPF8_tRNA-Gly-GCC-1-1 Korarchaeota

GCGGCCG**T**AGTCT**A**GCC**TGG**AcAGGATGGGGGC**CTGCCA**CGTCCCAGACCCGGG**TTCAA**ATCCCGGCGGCCGCA

Candidatus_Koribacter_versatilis_Ellin345_Cand_Kori_versatilis_Ellin345_tRNA-Gly-GCC-1-1 Acidobacteriota

GCGGGAG**T**AACTC**A**G**TGGTA**GAGTGCGACCT**TGCCA**AGGTCGAAGtCGCGGG**TTCAA**ATCCCGTCTCCCGCTCCA

Candidatus_Methylomirabilis_oxyfera_Cand_Meth_oxyfera_tRNA-Gly-GCC-1-1 Methylomirabilota bacteria

GCGGGA**AT**AGCTC**A**GC**GGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGGG**TTCAA**ATCCCGTTTCCCGCTCCA

Candidatus_Nasuia_deltocephalinicola_str_NAS-ALF_ tRNA-Gly-GCC-1-1 Betaproteobacteria

GGGTAGC**T**T**AATGGTA**AAGCGTAACTT**TGCCA**AAGTTGAGAtTGCGAG**TTCAA**ATCTCGTCCCTT

Candidatus_Sulcia_muelleri_CARI_Cand_Sulc_muelleri_CARI_tRNA-Gly-GCC-1-1 Bacteroidota

GCGAGA**AT**AGCTCATT**TGGTA**GAGTACTACCT**TGCCA**AGGTAG**TGGTA**GCGGG**TTCAA**ATCCCGTTTCTCGCT

Candidatus_Zinderia_insecticola_CARI_Cand_Zind_insecticola_CARI_tRNA-Gly-GCC-1-1 Betaproteobacteria

GCGAAAG**T**AGCTCA**A**T**TGGTA**GAGCAATACCT**TGCCA**AGGTATAGGtTGAGAG**TTCAA**AACTCTTCTTTCGCT

Cavia_porcellus_Cporc3_tRNA-Gly-GCC-204-1 Mammals

GcGTATC**T**C**A**G**TGGTA**GAATACTTGC**CTGCCA**TGCACAAAGcTCTGGG**TTCAA**TTCCTAGCATtgCA

Ceratodon_purpureus_GG1_Cpurp_GG1_1_tRNA-Gly-GCC-9-1 Bryophyta

GGGtttT**ATG**TCT**A**G**TGGTA**GAATAGTACC**CTGCCA**CGGTACAGaCCCGGG**TTCAA**TTCCCGGCCGGTGCA

Ceratodon_purpureus_R40_Cpurp_R40_1_tRNA-Gly-GCC-3-1 Bryophyta

GCGGAAA**T**AGCTT**AATGGTA**GAGTATAGCCT**TGCCA**AGGCTGAGGtTGAGGG**TTCAA**GTCCCTTTTTCCGCT

Chara_braunii_S276_Cbrau1_tRNA-Gly-GCC-11-1 Viridiplantae

GTGGAA**AT**AGCTT**AATGGTA**GAGTATAGCCT**TGCCA**AGGCTAAGGtTGAGGG**TTCAA**ATCCCTTTTTCCGCT

Chlamydia_muridarum_MopnTet14_Chla_muri_MopnTet14_tRNA-Gly-GCC-1-1 Chlamydiota bacteria

GCGGGTG**T**AGCTC**A**G**TGGTA**GAGCGCCACGT**TGCCA**ACGTGAAGGtCGTGAG**TTCAAG**CCTCATCACCCGCT

Chlamydophila_abortus_AB7_Chla_abor_AB7_tRNA-Gly-GCC-1-1 Chlamydiota bacteria

GCGGGTG**T**AGCTC**A**G**TGGTA**GAGCGCCACGT**TGCCA**ACGTGAAGGtCGTGAG**TTCAAG**CCTCATCACCCGCT

Choloepus_hoffmanni_Choff2_tRNA-Gly-GCC-2-1 Mammals

GCATTGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCCGGCCAATGCA

Chrysemys_picta_bellii_Cpict2_tRNA-Gly-GCC-24-1 Reptilia turtle

GCATTGG**TG**GTTC**A**G**TGGTA**GAACTCTCCC**CTGCCA**CGTGGGAGGCCTAGA**TTCAA**TTCCCAACCAGTATA

Cladorhizidae_sp_MBARI_D1340-BT2_Csp_MBARI_tRNA-Gly-GCC-1-1 Demospongiae

GCACTGATGGTTCAGTGGTAGAATTCTCGCCTGCCACGCGGGAGGCCCGGGTTCAATTCCCGGTCAGTGCA

Closterium_sp_NIES-67_Clost1_tRNA-Gly-GCC-5-1 Charophyta

GTGCGCTGTTTAGTGGTAGAATAGCACCCTGCCAtgtgccCGGTGCAGaCCTGGGTTCAATTCCCGGCTGGCACA

Clostridium_kluyveri_DSM_555_Clos_kluy_DSM_555_tRNA-Gly-GCC-2-1 Eubacteriales

GCGGGAGTGGCTCAGTGGTAGAGCGTCACCTTGCCAAGGTGAACGtCGCGGGTTCAAATCCCGTCTTCCGCTCCA

Corallococcus_coralloides_DSM_2259_Cora_cora_DSM_2259_tRNA-Gly-GCC-1-2 Myxococcales bacteria

GCGGGAATAGCTCAGCGGTAGAGCATCGCCTTGCCAAGGCGAGGGtCGAGGGTTCAAATCCCTTTTCCCGCTCCA

Cricetulus_griseus_Cgris1_tRNA-Gly-GCC-301-1 Mammals (halmster)

TCTTGGTTGCAGCTCAGTGGTAAAGCATTTAGCTGCCATTTGCAAGGcTTTGGATTCAATCCCCAgGACTAAGAA

Curvularia_lunata_CX-3_Curv_luna_CX_3_tRNA-Gly-GCC-1-5 Fungus

GCATCGGTGGTTTAGTGGTAAAATTAGCCGTTGCCATTCATCTGTTCAATTGATTCACTTCACAGAACAGCATGAG

Cylindrospermum_stagnale_PCC_7417_Cyli_stag_PCC_7417_tRNA-Gly-GCC-2-1 Cyanobacteria

GGAAGTGGTAGCTCAACTGGAAGAGCGCTCGACAGCCAATCGGGAGGtTGTGAGTTCAAGTCTCACCCCTTCCA

Dactylellina_haptotyla_CBS_20050_Dact_hapt_CBS_200_50_tRNA-Gly-GCC-2-1 Fungus

GCGTTTGTGGTTTAGTGGTAAAATTCGTCGTTGCCATTCAAtaatgataTCGACGAGcCCCGGGTTCAATTCCCGG

Danio_rerio_Dreri11_tRNA-Gly-GCC-15-1 Fish

GCATTGGTGGTTCAGTGGTAGAATTCTCGCCTGCCACGCGGGAGaCCCGGGTTCAATTCCCGGCTAATGCA

Dasypus_novemcinctus_Dnove3_tRNA-Gly-GCC-10902-1 Mammals (armadillo)

GCaTGGGTGGTTCAGTGGTAGAATTCTCACCTGCCACACAGGAGGCCCAGGTTCAAGTCCCAGCCAAGCAC

Desulfarculus_baarsii_DSM_2075_Desu_baar_DSM_2075_tRNA-Gly-GCC-1-1 Thermodesulfobacteriota

GCGGGAGTAACTCAGAGGTAGAGTGCAACCTTGCCAAGGTTGAAGtCGCGGGTTCAACTCCCGTCTCCCGCTCCA

Desulfatibacillum_alkenivorans_AK-01_Desu_alke_AK_01_tRNA-Gly-GCC-1-1 Desulfatibacillum

GCGGGAATAACTCAGTGGTAGAGTGCGACCTTGCCAAGGTCGAAGtCGCGGGTTCAAATCCCGTTTCCCGCTCCA

Desulfobacterium_autotrophicum_HRM2_Desu_auto_HRM2_tRNA-Gly-GCC-1-2 Thermodesulfobacteriota

GCGGGAATAACTCAGTGGTAGAGTGCGACCTTGCCAAGGTCGAAGtCGCGGGTTCAAATCCCGTTTCCCGCTCCA

Desulfobacula_toluolica_Tol2_Desu_tolu_Tol2_tRNA-Gly-GCC-1-2 Thermodesulfobacteriota

GCGGGA**AT**AACTC**A**G**TGGTA**GAGTGCGACCT**TGCCA**AGGTCGAAGtCGCGGG**TTCAA**ATCCCGTTTCCCGCTCCA

Desulfococcus_oleovorans_Hxd3_Desu_oleo_Hxd3_tRNA-Gly-GCC-1-1 Thermodesulfobacteriota

GCGGGA**AT**AACTC**A**G**TGGTA**GAGTGCGACCT**TGCCA**AGGTCGAAGtCGCGGG**TTCAA**ATCCCGTTTCCCGCTCCA

Desulfohalobium_retbaense_DSM_5692_Desu_retb_DSM_5692_tRNA-Gly-GCC-1-1 Thermodesulfobacteriota

GCGGGAG**T**AACTCAG**TGGTA**GAGTGCAACCT**TGCCA**AGGTTGAAGtCGCGGG**TTCAA**ATCCCGTCTCCCGCTCCA

Desulfomicrobium_baculatum_DSM_4028_Desu_bacu_DSM_4028_tRNA-Gly-GCC-1-4 Desulfomicrobiaceae bacteria

GCGGGAG**T**AACTCAG**TGGTA**GAGTGCAACCT**TGCCA**AGGTTGAAGtCGCGAG**TTCAA**ATCTCGTTTCCCGCTCCA

Desulfomonile_tiedjei_DSM_6799_Desu_tied_DSM_6799_tRNA-Gly-GCC-1-1 Desulfomonilaceae bacteria

GCGGGA**AT**AACTCAG**TGGTA**GAGTGCAACCT**TGCCA**AGGTTGAAGtCGCGGG**TTCAA**ATCCCGTTTCCCGCTCCA

Desulfovibrio_africanus_str_Walvis_Bay_Desu_afri_Walvis_Bay_tRNA-Gly-GCC-1-1 Thermodesulfobacteriota

GCGGGA**AT**AACTC**A**G**TGGTA**GAGTGCAACCT**TGCCA**AGGTTGAAGtCGCGGG**TTCAA**ATCCCGTTTCCCGCTCCA

Desulfurella_acetivorans_A63_Desu_acet_A63_tRNA-Gly-GCC-1-1 Campylobacteriota

GCGGGA**AT**AGCTCAGT**TGGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGGG**TTCAAG**TCCCGTTTCCCGCTCCA

Desulfurobacterium_thermolithotrophum_DSM_11699_Desu_ther_DSM_11699_tRNA-Gly-GCC-2-1 Desulfurobacteriales

GCGGGCG**T**AGCTCAGT**TGGTA**GAGCGAAACCT**TGCCA**AGGTTTAGGtCGCGGG**TTCAAG**TCCCGTCGCCCGCTCCA

Dictyoglomus_thermophilum_H-6-12_ATCC_35947_Dict_ther_H_6_12_ATCC_35947_tRNA-Gly-GCC-1-1 Dictyoglomota bacteria

GCGGGAG**T**AGCTC**A**GG**GGTA**GAGCGTCTCCT**TGCCA**AGGAGAAGGcCGCGGG**TTCAA**ATCCCGTCTCCCGCTCCA

Dipodomys_ordii_Dordi2_tRNA-Gly-GCC-1-1 Mammals (rat)

GCATGGG**TG**GTTC**A**G**TGGTA**GAATTTTTGC**CTGCCA**CACAGGAGGCCTGGG**TTCAA**TTTCCAGCCCATGAA

Dokdonia_sp_4H-3-7-5_Dokd_4H_3_7_5_tRNA-Gly-GCC-1-1 Bacteroidota

GCGAAAG**T**AGCTCAGGGGTAGAGCATCACCT**TGCCA**AGGTGGGGGtCGCGAG**TTCAA**ATCTCGTCTTTCGCT

Drechslerella_stenobrocha_248_Drec_sten_248_tRNA-Gly-GCC-1-1 Fungus

GCGTTTG**TG**GTTTAG**TGGTA**AAATTCATCGT**TGCCA**t**CTGCC**tccgcaggtcaagTTCGATGAGcCCCGGG**TTCA**
ATTCCCGGCAGACGCA

Echinops_telfairi_Etelf2_tRNA-Gly-GCC-394-1 Plant Asteraceae

CCCTGG**T**AGCACAG**TGGTA**ACAGCATTTGG**CTGCCA**TCCagAAAAGtCAGTGG**TTCAA**ACCCACCagcctcTCAGTGGA

Erinaceus_europaeus_Eeuro2_tRNA-Gly-GCC-3-1 Mammals (hedgehog)

ACATGGG**TG**GATCAG**TGGTA**GAATTCTTTC**CTGCCA**TGCGGGAGGCCCAGG**TTCAA**TTCCCGGCTCATGCA

Erysipelothrix_rhusiopathiae_SY1027_Erys_rhus_SY1027_tRNA-Gly-GCC-1-1 Bacillota

GCAGGTG**T**AGTTC**AATGGTA**GAACACGACCT**TGCCA**AGGTTGAGGCGGGGG**TTCAA**TTCCCCTCACCTGCTCCA

Eubacterium_acidaminophilum_DSM_3953_Euba_acid_DSM_3953_tRNA-Gly-GCC-1-1 Bacillota

GCGGAAG**TG**GCTCAG**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Exophiala_mesophila_CBS_40295_Exop_meso_CBS_40295_tRNA-Gly-GCC-1-1 Fungus

GCATTGT**TG**GTTTAG**TGGTA**AAAT**CTGCC**GT**TGCCA**gtcttccttaacaggtctact**TTCAA**tgTCGGCAGGcCCCGTGTTCGATTCACGGACAATGCA

Faecalitalea_cylindroides_T2-87_Faec_cyli_T2_87_tRNA-Gly-GCC-1-1 Firmicutes bacteria

GCAGATG**T**AGTTC**AATGGTA**GAACACAGCCT**TGCCA**AGGCTGATaCGGGGG**TTCAA**TTCCCCTCATCTGCTCCA

Fervidicoccus_fontis_Kam940_Ferv_font_Kam940_tRNA-Gly-GCC-1-1 Proteoarchaeota

GCGGCGG**T**CGTCTAGCC**TGG**AtcAGGACGCCGGC**CTGCCA**CGTCGGAAAtCCCGGG**TTCAA**ATCCCGGCCGCCGCA

Fistulina_hepatica_ATCC_64428_Fist_hepa_ATCC_64428_tRNA-Gly-GCC-2-1 Fungus

GCATTA**ATG**GGGTAG**TGGTA**ACCTGGGTCGT**TGCCA**tagggattgagcacccacttgTCGACCCGcCGGGGG**TTCAA**TTCCCCCTTAATGCA

Formosa_agariphila_KMM_3901_Form_agar_KMM_3901_tRNA-Gly-GCC-1-1 Bacteroidota

GCGAAAG**T**AGCTC**A**GG**GGTA**GAGCATCACCT**TGCCA**AGGTGAGGGtCGCGGG**TTCAA**ATCCCGTCTTTCGCT

Geobacillus_sp_Y41MC1_Geob_Y4_1MC1_tRNA-Gly-GCC-3-1 Bacillota

GCGGAAG**T**AGTTC**A**G**TGGTA**GAACACCACCT**TGCCA**AGGTGGGGGtCGCGGG**TTCAAG**TCCCGTCTTCCGCT

Geospiza_fortis_Gfort1_tRNA-Gly-GCC-1-1 Aves

GCATTGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCAGGAGGCCAGGG**TTCAA**TTCCTGACCAAAGCA

Glycine_max_Williams_82_Gmax2.1_tRNA-Gly-GCC-1-1 Plant (soybean)

GTTGTTG**T**AGT**AT**A**GT**GATaAGTATTTTCCC**CTGCCA**CGGGAACGaTCCGGA**TTCAA**TCCCCGGCAACGggggtttcACT

Gossypium_raimondii_Graim2_tRNA-Gly-GCC-5-1 Plant (cotton)

GCGGAA**AT**AGCTTA**ATGGTA**GAGCATAGCCT**TGCCA**AGGCTGAGGtTGAGGG**TTCAAG**TCCCTCCTTCCGCT

Halalkalicoccus_jeotgali_B3_Hala_jeot_B3_tRNA-Gly-GCC-1-1 Halobacteriaceae archea

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Halanaerobium_hydrogeniformans_Hala_hydr_tRNA-Gly-GCC-1-2 Halanaerobiaceae bacteria

GCGGGAG**T**AGCTC**A**G**TGGTA**GAGCATCACGT**TGCCA**ACGTGAGGGtCGCGAG**TTCAA**ATCTCGTTTCCCGCTCCA

Haloarcula_hispanica_ATCC_33960_CGMCC_12049_ tRNA-Gly-GCC-1-1 Halobacteriales archaea

GCGCTGG**T**AGTGTAGT**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Halobacterium_salinarum_R1_DSM_671_Halo_sali_R1_DSM_671_tRNA-Gly-GCC-1-1 Halobacteriales archaea

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Halodesulfovibrio_sp_MK-HDV_Halo_MK_HDV_tRNA-Gly-GCC-1-1 Proteobacteria

GCGGGA**AT**AACTC**A**G**TGGTA**GAGTACAACCT**TGCCA**AGGTTGGAGtCGCGAG**TTCAA**ATCTCGTTTCCCGCTCCA

Haloferax_mediterranei_ATCC_33500_CGMCC_12087_Halo_medi_ATCC_33500_CGMCC_1_2087_tRNA-Gly-GCC-2-1 Euryarchaeota

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Halogeometricum_borinquense_DSM_11551_PR_3_Halo_bori_DSM_11551_PR_3_tRNA-Gly-GCC-1-2 Euryarchaeota

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Halomicrobium_mukohataei_DSM_12286_Halo_muko_DSM_12286_tRNA-Gly-GCC-1-1 Halomicrobium

GCGGTGG**T**AGTGT**A**G**TGGTA**TCACAGGACC**CTGCCA**CGGTCCTAaCGGGGG**TTCAA**ATCCCCCCCACCGCA

Halomonas_sp_KO116_Halo_KO116_tRNA-Gly-GCC-2-1 Proteobacteria

GCGGGA**AT**AGCTC**A**G**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGGGAG**TTCAA**ATCTCCTTTCCCGCTCCA

Haloquadratum_walsbyi_C23_Halo_wals_C23_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCCGGG**TTCAA**ATCCCGGCCAGCGCA

Halorhabdus_tiamatea_SARL4B_Halo_tiam_SARL4B_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGACGG**TG**GTGT**A**G**TGGTA**TCACAGGACC**CTGCCA**CGGTCCTAaCCCGAG**TTCAA**ATCTCGGCCGTCGCA

Halorubrum_lacusprofundi_ATCC_49239_Halo_lacu_ATCC_49239_tRNA-Gly-GCC-1-2 Euryarchaeota

GCACCGG**T**AGTGT**A**G**TGGTA**TCACGCAACCT**TGCCA**TGGTTGCAaCCCGAG**TTCAA**ATCTCGGCCGGTGCA

Halostagnicola_larsenii_XH-48_Halo_lars_XH_48_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGTTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAACGCA

Haloterrigena_turkmenica_DSM_5511_Halo_turk_DSM_5511_tRNA-Gly-GCC-1-2 Euryarchaeota

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCGGGG**TTCAA**ATCCCCGCCAGCGCA

Halovivax_ruber_XH-70_Halo_rube_XH_70_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGCTGG**T**AGTGTAG**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Heterocephalus_glaber_Hglab2_tRNA-Gly-GCC-3-1 Mammals (rat)

GCATTGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGAGGGAGGCCCGGG**TTCAA**TTCCCAGCCAATGCA

Hyperthermus_butylicus_DSM_5456_Hype_buty_DSM_5456_tRNA-Gly-GCC-1-1 Crenarchaeota

GCGGCGG**T**CGTCTAGCC**TGG**ActAGGACGCCGGC**CTGCCA**AGCCGGCGAtCCCGGG**TTCAA**ATCCCGGCCGCCGCACCA

Ignicoccus_hospitalis_KIN4I_Igni_hosp_KIN4_I_tRNA-Gly-GCC-1-1 Crenarchaeota

GCGGCGG**T**CGTCTAGCC**TGG**ActAGGACGCCGGC**CTGCCA**CGCCGGAGAtCCCGGG**TTCAA**ATCCCGGCCGCCGCACCA

Ignisphaera_aggregans_DSM_17230_Igni_aggr_DSM_17230_tRNA-Gly-GCC-1-1 Crenarchaeota

GCGGCGG**T**CGTCTAGCC**TGGT**ctAGGACGCCGGC**CTGCCA**AGCCGGAGAtCCCGGG**TTCAA**ATCCCGGCCGCCGCACCA

Isosphaera_pallida_ATCC_43644_Isos_pall_ATCC_43644_tRNA-Gly-GCC-1-1 Planctomycetota bacteria

GCGGGAG**T**AGCTC**A**GG**GGTA**GAGCGCCACGT**TGCCA**ACGTGGTTGtCGTGGG**TTCAA**ATCCCATCTCCCGCT

Laccaria_bicolor_S238N-H82_Lacc_bico_S238N_H82_tRNA-Gly-GCC-4-1 Fungus

GCATTA**ATG**GGGT**A**G**TGGTA**ACCTGGGTCAT**TGCCA**tgaggatttcatatctgtttgtgtttacctataTTGACC
TGcTGGGGG**TTCAA**TTCCCTCTTAATGCA

Lacinutrix_sp_5H-3-7-4_Laci_5H_3_7_4_tRNA-Gly-GCC-1-1 Flavobacteriaceae

GCGAAAG**T**AGCTC**A**GG**GGTA**GAGCATCACCT**TGCCA**AGGTGGAGGtCGTGGG**TTCAA**ATCCCATCTTTCGCT

Lactobacillus_helveticus_DPC_4571_Lact_helv_DPC_4571_tRNA-Gly-GCC-3-1 Firmicutes bacteria

GCGGAAG**T**AGTTC**A**G**TGGTA**GAACATCACCT**TGCCA**TGGTGGGGGtCGCGGG**TTCAA**ATCCCGTCTTCCGCT

Latimeria_chalumnae (cœlacanthe)_Lchal1_tRNA-Gly-GCC-3-1 Fish

GCATTGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGaCCCGGG**TTCAA**TTCCCGGCCAATGCA

Lawsonia_intracellularis_N343_Laws_intr_N343_tRNA-Gly-GCC-1-1 Plant (magnoliophyta)

GCGGGAG**T**AACTC**A**G**TGGTA**GAGTGCAACCT**TGCCA**AGGTTGAAGtCGCGGG**TTCAA**ATCCCGTCTCCCGCTCCA

Leptospira_biflexa_serovar_Patoc_strain_Patoc_1_Ames _tRNA-Gly-GCC-1-1 Spirochaetae bacteria

GCGGGA**AT**AGCTC**A**GC**GGTA**GAGCATCTCCT**TGCCA**AGGAGAGGGtCGCGGG**TTCAA**GTCCCGTTTCCCGCT

Loxodonta_africana_Lafri3_tRNA-Gly-GCC-6-1 Mammals (elephant)

GCGTTGG**TG**GTCC**A**G**TGGTA**GAATTCTTGC**CTGCCA**TGCAGGAGGCCCAGG**TTCAA**TTCCTGGCCAATGCA

Macaca_mulatta_Mmula8_tRNA-Gly-GCC-11-1 Mammals (primates)

GCATGGG**TG**GTTCAG**TGGTA**GAATTCTTGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCTGGCCCATACA

Macropus_eugenii_Meuge2_tRNA-Gly-GCC-9-1 Macropodinae (kangaroo)

GGTTaccgc**ATG**GATGGTTCAG**TGGTA**GAATCCTTCC**CTGCCA**CGCGGGAGGTCCAGG**TTCAA**TTCCTGGCTCGACCA

Medicago_truncatula_A17_Mtrun4_tRNA-Gly-GCC-2-1 Plant (tracheophytes)

GCACCAG**TG**GTCT**A**G**TGGTA**GAATAGTACC**CTGCCA**TGGTACAGaCCCGGG**TTCAA**TTCCTGGCTGGTGCA

Melopsittacus_undulatus_Mundu1_tRNA-Gly-GCC-2-2 Aves (parakeet)

GCATTGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCCGGCCAATGCA

Metallosphaera_sedula_CuR1_Meta_sedu_CuR1_tRNA-Gly-GCC-1-1 Thermoproteota (archaea)

GCGGCCG**T**AGTCTAGCC**TGG**AttAGGACGC**CTGCC**TGCCACGCAGGAGGtCCCGGG**TTCAA**ATCCCGGCGGTCGCA

Methanobacterium_formicicum_BRM9_Meth_form_BRM9_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGGCGT**T**AGTCCAGCC**TGGT**TAAGACACTGGC**CTGCCA**CGCCAGCGACCCGGG**TTCAA**ATCCCGGACGCCGCA

Methanobrevibacter_ruminantium_M1_Meth_rumi_M1_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGGTGT**T**AGTCCAGCC**TGGT**tAAGACTCTAGC**CTGCCA**CGTTAGAGACCCGGG**TTCAA**ATCCCGGACGCCGCA

Methanocaldococcus_fervens_AG86_Meth_ferv_AG86_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGGCCT**TG**GTGTAGCC**TGGTA**ACACACGGGC**CTGCCA**CGCCCGGAcCCCGGG**TTCAA**ATCCCGGAGGCCGCACCA

Methanocella_arvoryzae_MRE50_Meth_arvo_MRE50_tRNA-Gly-GCC-1-1 Methanocellales archaea

GCGCCGG**T**AGTGTAGTGGTtATCACTGTAGCT**TGCCA**AGCTATAGACTCGGG**TTCAA**TTCCCGACCGGCGCACCA

Methanococcus_maripaludis_C5_Meth_mari_C5_tRNA-Gly-GCC-1-1 Methanococcaceae archaea

GCGGCTT**TG**ATGTAG**A**C**TGGTA**TCATACGGCC**CTGCCA**CGGCCGACACCCGGG**TTCAA**ATCCCGGAGGCCGCA

Methanococcus_voltae_A3_Meth_volt_A3_tRNA-Gly-GCC-1-1 Methanococcaceae archaea

GCGGCCT**TG**ATGT**A**G**TGGTA**TCATACGGCC**CTGCCA**CGGCCGATACCCGGG**TTCAA**ATCCCGGAGGCCGCA

Methanopyrus_kandleri_AV19_Meth_kand_AV19_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGGCCGCAGTCTAGTC**TGGTA**GGACGCGGGC**CTGCC**GAGCCCGTGGCCCGGG**TTCAA**ATCCCGGCGGCCGCACCA

Methanosarcina_lacustris_Z-7289_Meth_lacu_Z_7289_tRNA-Gly-GCC-1-1 Methanosarcinales archaea

ACATCAG**T**AGTGT**A**GC**GGT**cATCACCGGGCGT**TGCCA**ACGCTCGAaCTCGGG**TTCAA**ATCCCGACTGGTGTA

Methanosphaera_stadtmanae_DSM_3091_Meth_stad_DSM_3091_tRNA-Gly-GCC-1-1 Methanobacteriaceae archaea

GCAGCG**AT**AGTCCAGGC**TGG**CtAAGACTCTACC**CTGCCA**CGGTAGTGACCCGGG**TTCAA**ATCCCGGTCGTTGCA

Methanothermobacter_sp_CaT2_Meth_CaT2_tRNA-Gly-GCC-1-1 Methanobacteriaceae archaea

GCGGCGT**T**AGTCCAGCC**TGGT**TAAGACACTGGC**CTGCCA**CGCCAGCGACCCGGG**TTCAA**ATCCCGGACGCCGCA

Methanothermococcus_okinawensis_IH1_Meth_okin_IH1_tRNA-Gly-GCC-1-1 Methanocaldococcaceae archaea

GCGGCCT**TG**ATGTAGCC**TGGTA**TCATACGGCC**CTGCCA**CGGCCGATACCCGGG**TTCAA**ATCCCGGAGGCCGCA

Methanothermus_fervidus_DSM_2088_Meth_ferv_DSM_2088_tRNA-Gly-GCC-1-1 Methanothermaceae archaea

GCGGCGT**T**AGTCCAGCC**TGGT**tAAGACGCTGGC**CTGCCA**CGCCAGTGACCCGGG**TTCAA**ATCCCGGACGCCGCA

Methanotorris_igneus_Kol_5_Meth_igne_Kol_5_tRNA-Gly-GCC-1-1 Methanocaldococcaceae (archae

GCGGCCT**TG**ATGTAGCC**TGGTA**ACATACGGGC**CTGCCA**CGCCCGTTcCCCGGG**TTCAA**ATCCCGGAGGCCGCACCA

Methylacidiphilum_infernorum_V4_Meth_infe_V4_tRNA-Gly-GCC-1-1 Methylacidiphilales archaea

GCGGGTG**T**AGCTCAGT**TGGTA**GAGCGCAACCT**TGCCA**AGGTTGACGtCGCGGG**TTCAA**ATCCCGTCACCCGCT

Microcoleus_sp_PCC_7113_Micr_PCC_7113_tRNA-Gly-GCC-2-1 Cyanobacteria

GCGGGTG**TG**ATGT**A**G**TGG**CtAGCATCTGAGT**CTGCCA**GTCTCAGCgCATGGG**TTCAAG**TCCCATCATCCGCT

Monodelphis_domestica_Mdome5.1_tRNA-Gly-GCC-3-1 Mammals (dolphin)

GCATTGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGGGGCCTGGG**TTCAA**TTCCCGGCCAATGCA

Moorella_thermoacetica_ATCC_39073_Moor_ther_ATCC_39073_tRNA-Gly-GCC-1-1 Bacillota

GCGGAAG**T**AGCTC**A**G**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGcCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Mrakia_frigida_Nwmf-AP1_Mrak_frig_Nwmf_AP1_tRNA-Gly-GCC-1-1 Fungus

ATAGGTA**TG**GTGA**A**G**TGG**CtATCATTCGCGCT**TGCCA**TGCGTGAGGCAGGGG**TTCAA**TTCCCCTTACCTATA

Mus_caroli_CAROLIEiJ_MusCAROLI_EiJ_1509_tRNA-Gly-GCC-34-1 Mammals (mouse)

GCATAAG**TG**GTTC**A**G**TGGTA**GAATTCTCAC**CTGCCA**TTTGGGAGGCCCAGG**TTCAA**TTCCAGGCCCATtGCA

Mus_musculus_AJ_MusA_J_1509_tRNA-Gly-GCC-2-1 Mammals (mouse)

GCATGGG**TG**GTTC**A**G**TGGTA**GAATTCTCAC**CTGCCA**TGAGGGAGGCCCAGG**TTCAA**TTCCAGGCCCATtGCA

Mus_pahari_PAHARIEiJ_MusPAHARI_EIJ_1509_tRNA-Gly-GCC-392-1 Mammals (mouse)

GAGATGGC**T**C**A**G**TGGT**taAGGATACTGA**CTGCCA**TTCCAGATGaCCTGGG**TTCAA**TTCCTAGCAACTGCA

Mus_spretus_SPRETEiJ_MusSPRET_EiJ_1509_tRNA-Gly-GCC-4-1 Mammals (mouse)

GCATGGG**TG**GTTC**A**G**TGGTA**GAATTCTCAC**CTGCCA**TGAGGGAGGCCCAGG**TTCAA**TTCCAGGCCCATtGCA

Mycoplasma_agalactiae_5632_Myco_agal_5632_tRNA-Gly-GCC-1-1 Tenericutes bacteria

GCAAATG**T**AGTTC**AATGGTA**GAACACCAGCT**TGCCA**TGCTGGATaCGGGGG**TTCAA**TTCCCCTCATTTGCTCCA

Myxococcus_stipitatus_DSM_14675_Myxo_stip_DSM_14675_tRNA-Gly-GCC-1-1 Deltaproteobacteria

GCGGGA**AT**AGCTC**A**GC**GGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGAGGG**TTCAA**ATCCCTTTTCCCGCTCCA

Naegleria_gruberi_NEG-M_Naeg_grub_NEG_M_tRNA-Gly-GCC-1-6 Eukaryota (amoeba)

GCGTCG**ATG**GTTT**A**G**TGGTA**GAATACGGCGT**TGCCA**TCGCCGTGaCCCGGG**TTCAA**TTCCCGGTCGACGCA

Natrialba_magadii_ATCC_43099_Natr_maga_ATCC_43099_tRNA-Gly-GCC-1-1 Halobacteriaceae archaea

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Natrinema_pellirubrum_DSM_15624_Natr_pell_DSM_15624_tRNA-Gly-GCC-1-1 Halobacteriaceae archaea

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Natronococcus_occultus_SP4_Natr_occu_SP4_tRNA-Gly-GCC-1-1 Halobacteriaceae archaea

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCTGGG**TTCAA**ATCCCAGCCAGCGCA

Natronomonas_moolapensis_8811_Natr_mool_8_8_11_tRNA-Gly-GCC-1-1 Halobacteriaceae archaea

GCGCTGG**T**AGTGT**A**G**TGGTA**TCACGTGACCT**TGCCA**TGGTCACAaCCGGGG**TTCAA**ATCCCCGCCAGCGCA

Nicotiana_tabacum_K326_Ntaba_K326_tRNA-Gly-GCC-4-1 Plant (solanacea)

GCGGAA**AT**AGCTT**AATGGTA**GAGCATAGCCT**TGCCA**AGTCTAAGAtTGAGGG**TTCAAG**TCCCTCTTTCCGCT

Nitrososphaera_viennensis_EN76_Nitr_vien_EN76_tRNA-Gly-GCC-1-1 Nitrosphaeraceae archaea

GCGACGG**T**CGTCCAGTT**TGGT**ctAGGACATCAGAT**TGCCA**ATCTGGTAaCCCGGG**TTCAA**ATCCCGGCCGTCGCACCA

Nonlabens_dokdonensis_DSW-6_Nonl_dokd_DSW_6_tRNA-Gly-GCC-1-1 Flavobacteria

GCGAAAG**T**AGCTC**A**GG**GGTA**GAGCATCACCT**TGCCA**AGGTGGAGGtCGCGAG**TTCAA**ATCTCGTCTTTCGCT

Oreochromis_niloticus_Onilo2_tRNA-Gly-GCC-11-1 Fish

CACTTC**AT**AGTAC**AA**C**GGT**TCAGACATTTGCT**TGCCA**TGCAAAAGGtCACTGG**TTCAA**TTTTAGCTGGAGattaaA

Orientia_tsutsugamushi_str_Boryong_Orie_tsut_Boryong_tRNA-Gly-GCC-1-1 Rickettsiaceae bacteria

GCGGATG**T**AGCTC**A**G**TGGTA**GAGCGTTACTT**TGCCA**AGGTAAAAGtCGTGGG**TTCAA**TTCCCATCATCCGCT

Oryctolagus_cuniculus_Ocuni2_tRNA-Gly-GCC-21-1 Mammals (rabbit)

GGAGCTG**TG**GCATAGTG**GGTA**AAGCCGCTGC**CTGCCA**TGCCAGCATCCCATATGGgCGCAGG**TTCAAG**TCCCGGCTGCTCCA

Oryzias_latipes_Olati3_tRNA-Gly-GCC-2-1 Fish

GCATTGG**TG**GTAT**A**G**TGGTA**GCATAGCTGCT**TGCCA**TGCAGTTGaCCTGGG**TTCAA**TTCCCAGCCAATGCA

Oscillatoria_acuminata_PCC_6304_Osci_acum_PCC_6304_tRNA-Gly-GCC-2-1 Cyanobacteria

GCGGGTG**TG**ATGT**A**G**TGGTA**AGCATCTGAGT**CTGCCA**GTCTCAGTGCATGGG**TTCAA**ATCCCATCATCCGCT

Otolemur_garnettii_Ogarn3_tRNA-Gly-GCC-5-1 Mammals (primates)

GCATGGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCCGGCCCATGCA

Ovis_aries_Oarie4_tRNA-Gly-GCC-1572-1 Mammals (sheep)

GCATGAG**TG**GTTC**A**G**TGGTA**GAATTCTCAC**CTGCCA**CGTGGGAAgCCCAGA**TTCAA**TTCCCAGTCCATGCA

Palaeococcus_pacificus_DY20341_Pala_paci_DY20341_tRNA-Gly-GCC-1-1 Thermococcaceae archaea

GCGGTGG**T**AGTCTAGCC**TGG**CctAGGACTGCGGC**CTGCCA**CGCCGCAAgCCCGGG**TTCAA**ATCCCGGCCACCGCACCA

Parachlamydia_acanthamoebae_UV-7_Para_acan_UV_7_tRNA-Gly-GCC-2-1 Chlamydiae bacteria

GCGGGTG**T**AGCTC**A**G**TGGTA**GAGCATCACGT**TGCCA**ACGTGAGGGtCGTGAG**TTCAAG**CCTCATCACCCGCT

Paracoccidioides_brasiliensis_Pb03_Para_bras_Pb03_tRNA-Gly-GCC-2-1 Fungus

GCATCAT**TG**GTCT**A**G**TGGTA**GAATTCATCGT**TGCCA**tccaccgctgt**TTCAA**acggcgttcggaTTCGATGAGGCC

Petromyzon_marinus_Pmari2_tRNA-Gly-GCC-4-2 Agnatha (lamprey)

GCATCGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCCGGCCGATGCA

Pleurotus_ostreatus_PC15_Pleu_ostr_PC15_tRNA-Gly-GCC-3-2 Fungus

GCATCA**ATG**GGGT**A**G**TGGTA**ACCTGGGTCGT**TGCCA**ttgagtataTCGACCCGcCGCGAG**TTCAA**TTCTCGCTTGATGCA

Pleurozium_schreberi_Blido_Pschr1_tRNA-Gly-GCC-2-1 Plant (moss)

GCACCAG**TG**GTCT**A**G**TGGTA**GAATAGTACC**CTGCCA**CGGTACAGaCCCGGG**TTCAA**TTCCCGGCTGGTGCA

Plicaturopsis_crispa_FD-325_SS-3_Plic_cris_FD_325_SS_3_tRNA-Gly-GCC-2-1 Fungus

GCGTTA**ATG**GGGT**A**G**TGGTA**ACCTTGGTCGT**TGCCA**ttagcacaTTCGACCAGcCGGGGG**TTCAA**TTCCCCCTTAATGCA

Pohlia_nutans_NOL_Pnuta1_tRNA-Gly-GCC-16-1 Plant (moss)

GAATTGGg**T**ttTgaGGTCT**A**G**TGGTA**GAATAGTATC**CTGCCA**CGGTACAGaCCCGGG**TTCAA**TTCCCGGCCGGTGCA

Polaribacter_sp_MED152_Pola_MED152_tRNA-Gly-GCC-1-1 Flavobacteria

GCGAAAG**T**AGCTC**A**GG**GGTA**GAGCATCACCT**TGCCA**AGGTGAGGGtCGCGGG**TTCAA**ATCCCGTCTTTCGCT

Pristionchus_pacificus_Ppaci4_tRNA-Gly-GCC-2-1 Nematodes

TCTCTTG**T**AGTAT**A**G**TGGT**tAGTATCCGCGC**CTGCCA**CGTGCGAGaCCCGGG**TTCAA**TTTCCGGCCAGAGAG

Procavia_capensis_Pcape2_tRNA-Gly-GCC-2068-1 Mammals (daman)

GGGGCC**T**cgtTGGCTT**A**G**TGGT**TAAGTACTTGAT**TGCCA**ACCAAGAGGtTGGTGG**TTCAA**ACCCAGCAGCTCCA

Psychroflexus_torquis_ATCC_700755_Psyc_torq_ATCC_700755_tRNA-Gly-GCC-1-1 Flavobacteria

GCGAAAG**T**AGCTC**A**GC**GGTA**GAGCACCACCT**TGCCA**AGGTGGGGGtCGCGGG**TTCAA**ATCCCGTCTTTCGCT

Puccinia_striiformis_f_sp_tritici_CY32_Pucc_stri_f_tritici_CY32_tRNA-Gly-GCC-8-1 Fungus

GCaTCTGG**TG**TCAGT**TGG**GACAGCATCAGA**CTGCCA**acatgggctttcactcatgcATCTGAAGGtCCAGTG**TTCAAG**CCAC
TGTTGGGACA

Pyrenochaeta_lycopersici_CRA-PAV_ER_1211_Pyre_lyco_CRA_PAV_ER_1211_tRNA-Gly-GCC-2-1 Fungus

GGCACTT**T**GGCGG**A**G**TGGT**tAACGCGTATGT**CTGCCA**actaccacca**TTCAA**ctatcttgctaactcagtc

Pyrobaculum_aerophilum_str_IM2_Pyro_aero_IM2_tRNA-Gly-GCC-1-1 Thermoproteaceae archaea

GCGGCGG**T**AGTCTAGCC**TGGT**ttAGGATGGCGGC**CTGCCA**AGCCGTTGAtCCCGGG**TTCAA**ATCCCGGCCGCCGCACCA

Pyrococcus_abyssi_GE5_Pyro_abys_GE5_tRNA-Gly-GCC-1-1 Euryarchaoeta archaea

GCGGTGG**T**AGTCTAGCC**TGG**CctAGGACGCCACC**CTGCCA**AGGTGGAGACCCGGG**TTCAA**ATCCCGGCCACCGCACCA

Pyrolobus_fumarii_1A_Pyro_fuma_1A_tRNA-Gly-GCC-1-1 Crenarchaeota archea

GCGGCGG**T**CGTCTAGCC**TGG**ActAGGACGCCGGC**CTGCCA**AGCCGGAGAtCCCGGG**TTCAA**ATCCCGGCCGCCGCACCA

Rattus_norvegicus_Rnorv6_tRNA-Gly-GCC-1278-1 Mammals (rat)

GaGAg**ATG**GCTC**AATGGT**taAGAGCACTGA**CTGCC**GtgctcTTCCAGAGGcCGTGAG**TTCAAG**TCTCAGTAACCA

Rhizobium_gallicum_bv_gallicum_R602_Rhiz_gall_bv_gallicum_R602_tRNA-Gly-GCC-1-1 Alphaproteobacteria

GCGGGTG**T**AGCTC**A**GG**GGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGAGGG**TTCAA**ATCCCTTCGCCCGCTCCA

Rhopilema_esculentum_Rescu1_tRNA-Gly-GCC-8-1 Cnidaria (jellyfish)

GCCACGG**T**AGCCG**A**G**TGGT**tAAGGTGCTCGA**CTGCCATGCCA**GCACTCTgGG**TTCAA**TCCTGGCTCGcaGACA

Rhytidiadelphus_loreus_Rlore1_tRNA-Gly-GCC-2-1 Bryophyta

GCACCAG**TG**GTCT**A**G**TGGTA**GAATAGTACC**CTGCCA**CGGTACAGaCCCGGG**TTCAA**TTCCCGGCTGGTGCA

Rickettsia_massiliae_MTU5_Rick_mass_MTU5_tRNA-Gly-GCC-1-1 Rickettsia bacteria

GCGGGTG**T**AGCTC**A**GG**GGTA**GAGCGCTACCT**TGCCA**AGGTCGAAGtCGAGGG**TTCAA**ATCCCTTCACCCGCTCCA

Rothia_dentocariosa_ATCC_17931_Roth_dent_ATCC_17931_tRNA-Gly-GCC-1-1 Actinobacteria

GCGGTTG**T**AGCTCAGT**TGGTA**GAGCACCACCT**TGCCA**AGGTGGATGtCGCGAG**TTCAAG**TCTCGTCAACCGCT

Ruminiclostridium_thermocellum_ATCC_27405_Rumi_ther_ATCC_27405_tRNA-Gly-GCC-2-1 Bacillota

GCGGGTT**T**AACTC**A**G**TGGTA**GAGTGTCACCT**TGCCA**AGGTGAAAGtCGCGAG**TTCAA**ATCTCGTAACCCGCTCCA

Saccharolobus_shibatae_B12_Sacc_shib_B12_tRNA-Gly-GCC-1-1 Thermoproteota archaea

GCGGCCG**T**AGTCTAGCC**TGG**AttAGGACGCCTGC**CTGCCA**CGCAGGAGGtCCCGGG**TTCAA**ATCCCGGCGGCCGCA

Salinarchaeum_sp_Harcht-Bsk1_Sali_Harcht_Bsk1_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGTCGG**T**AGTGT**A**G**TGGTA**TCACGTGACC**CTGCCA**CGGTCGCAaCCCGAG**TTCAA**ATCTCGGCCGACGCA

Schizosaccharomyces_octosporus_yFS286_Schi_octo_yFS286_tRNA-Gly-GCC-2-1 Fungus

GCTTTGG**TG**GTTT**A**G**TGGTA**TAATGCTTCGT**TGCCA**TCGAAGCGaCCCGGG**TTCAA**TTCCCGGCCGAAGCA

Sclerotinia_sclerotiorum_1980_UF-70_Scle_scle_1980_UF_70_tRNA-Gly-GCC-7-1 Fungus

GCGTTTG**TG**GTTTA**ATGGTA**AAATCCATCGT**TGCCA**tcagggtctcttgttctcatg**TTCAA**tagataatgaataat
gTCG

Serratia_marcescens_SM39_Serr_marc_SM39_tRNA-Gly-GCC-3-1 Enterobacteria

GCGGGA**AT**AGCTCAGT**TGGTA**GAGCGCAACCT**TGCCA**AGGTTGAGGtCGCGAG**TTCAAG**CCTCGTTTCCCGCTCCA

Siansivirga_zeaxanthinifaciens_CC-SAMT-1_Sian_zeax_CC_SAMT_1_tRNA-Gly-GCC-1-1 Flavobacteria

GCGAAAG**T**AGCTCAGG**GGTA**GAGCATCACCT**TGCCA**AGGTGAGGGtCGCGGG**TTCAA**ATCCCGTCTTTCGCT

Simkania_negevensis_Z_Simk_nege_Z_tRNA-Gly-GCC-1-1 Chlamydiota bacteria

GCGGGTG**T**AGCTC**A**G**TGGTA**GAGCATCACGT**TGCCA**ACGTGAGGGtCGTGAG**TTCAA**ATCTCATCACCCGCT

Singulisphaera_acidiphila_DSM_18658_Sing_acid_DSM_18658_tRNA-Gly-GCC-1-1 Planctomycetota bacteria

GCGGGAG**T**AGCTCAGG**GGTA**GAGCGCCACGT**TGCCA**ACGTGGTTGtCGTGGG**TTCAA**ATCCCATCTCCCGCT

Solanum_lycopersicum_Heinz_1706_Slyco3_1_tRNA-Gly-GCC-1-1 Plant (tomato)

GCGGAA**AT**AGCTT**AATGGTA**GAGCATAGCCT**TGCCA**AGGCTAAGGtTGAGGG**TTCAAG**TCCCTCCTTCCGCT

Sorangium_cellulosum_So0157-2_Sora_cell_So0157_2_tRNA-Gly-GCC-1-2 Myxococcales bacteria

GCGGGAG**T**AACTC**A**G**TGGTA**GAGTGCAACCT**TGCCA**AGGTTGACGtCGCGGG**TTCAA**ATCCCGTCTCCCGCTCCA

Sorex_araneus_Saran2_tRNA-Gly-GCC-29-1 Mammals (shrew)

GCTcG**AT**TC**A**G**TGGTA**GAATTCTCGG**CTGCCA**CGTGGGAGGCCCGGG**TTCAA**TTCCCGGcccaTGCA

Spermophilus_tridecemlineatus_Strid2_tRNA-Gly-GCC-4615-1 Mammals (squirrel)

GgGTtT**T**AGCTC**A**G**TGGTA**tAGAGCTTGCcGCTTGCCTAGCatatGCGAGGcTGTAGG**TTCAA**TCCCTAgTACAACA

Sphaerobolus_stellatus_SS14_Spha_stel_SS14_tRNA-Gly-GCC-1-1 Fungus

GCACTAA**TG**GGGT**A**G**TGGTA**ACCTTGGTCGT**TGCCA**tcgagcacaaTCGACCAGcCAGGGG**TTCAA**TTCCCCTTTAG
TGCA

Sphaerochaeta_coccoides_DSM_17374_Spha_cocc_DSM_17374_tRNA-Gly-GCC-1-1 Spirochaetota bacteria

GCGAGAG**T**AGCTC**A**G**TGGTA**GAGCTCCACCT**TGCCA**AGGTGGATGtCGCGGG**TTCAA**ATCCCGTCTCTCGCT

Sphaerulina_populicola_P0202b_p0202b_Spha_popu_P02_02b_p02_02b_tRNA-Gly-GCC-1-1 Fungus

GCACTAG**TG**GTTT**A**G**TGGTA**AAATTGCCGCT**TGCCA**tccaaattggatcct**TTCAA**accagggttctaaag

Sphagnum_fallax_MN_Sfall1_tRNA-Gly-GCC-5-1 Bryophyta

GCGGAA**AT**AACTT**AATGGTA**GAGTATAGCCT**TGCCA**AGGCTGAGGtTGAGGG**TTCAAG**TCCCTTTTTTCGCT

Spirochaeta_thermophila_DSM_6192_Spir_ther_DSM_6192_tRNA-Gly-GCC-1-1 Spirochaetota bacteria

GCGGGAG**T**AGCTC**A**G**TGGTA**GAGCTCCACCT**TGCCA**AGGTGGATGtCGCGGG**TTCAAG**TCCCGTCTCCCGCT

Spirogloea_muscicola_CCAC_0214_Smusc1_tRNA-Gly-GCC-15-1 Algae

GTGGAAG**T**AGGTT**A**C**TGGTA**GAGTATAGCAT**TGCCA**AGGCTGAGGtTGAGGG**TTCAAG**TCCCTTGTTCCGCT

Spodoptera_frugiperda_Sfrug1_tRNA-Gly-GCC-4-1 Lepidoptera

TGCACaGT**TG**GCCC**A**G**TGG**CTGGGCAACTGA**CTGCC**GTGCAACGTGtCGCGGG**TTCAA**TTCTCGCACGCACAA

Stereum_hirsutum_FP-91666_SS1_Ster_hirs_FP_91666_SS1_tRNA-Gly-GCC-2-3 Fungus

GCATCA**ATG**GGGT**A**G**TGGTA**ACCTGGGTCGT**TGCCA**tcatgtTTCGAaagcataattgtgtcataTCGACCCGcCGGGGG
TTCAATTCCCCCTTGATGCA

Stigmatella_aurantiaca_DW43-1_Stig_aura_DW4_3_1_tRNA-Gly-GCC-1-1 Myxococcales bacteria

GCGGGA**AT**AGCTC**A**GC**GGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGAGGG**TTCAA**ATCCCTTTTCCCGCTCCA

Strongylocentrotus_purpuratus_Spurp5_tRNA-Gly-GCC-4-1 Echinodermata (urchin)

GCATCGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGGGaCCCGGG**TTCAA**TTCCCGGCCGATGCA

Sulfobacillus_acidophilus_DSM_10332_Sulf_acid_DSM_10332_tRNA-Gly-GCC-1-1 Bacillota

GCGGAAG**T**AGCTC**A**G**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Sulfolobus_islandicus_HVE104_Sulf_isla_HVE10_4_tRNA-Gly-GCC-1-1 Proteoarchaeota

GCGGCCG**T**AGTCTAGCC**TGG**AttAGGACGC**CTGCCTGCCA**CGCAGGAGGtCCCGGG**TTCAA**ATCCCGGCGGCCGCA

Sus_scrofa_Sscro11_tRNA-Gly-GCC-5-1 Mammals (pig)

GCATGGG**TG**GTTCAGG**GGTA**GAATTCTCAC**CTGCCA**CGTGGGAGGCCCGGG**TTCAA**TTCCCGGCCTGTGCG

Syntrophobacter_fumaroxidans_MPOB_Synt_fuma_MPOB_tRNA-Gly-GCC-1-1 Thermodesulfobacteriota bacteria

GCGGGA**AT**AACTC**A**GC**GGTA**GAGTGCAACCT**TGCCA**AGGTTGAAGtCGCGGG**TTCAA**ATCCCGTTTCCCGCTCCA

Taeniopygia_guttata_Tgutt2_tRNA-Gly-GCC-10-1 Aves

GCCCTGG**TG**GCTCCG**TGGTA**GAATTCTGC**CTGCCA**CGGCGGCAgCCTGGG**TTCAA**TTCCCGGCAGAGGCA

Tarsius_syrichta_Tsyri2_tRNA-Gly-GCC-15-1 mammals (tarsier)

ACATGGG**T**AGTTCAG**TGGTA**GAATTCTCGC**CTGCCA**CACAGGAGGCCCGGA**TTCAA**TTACTAACCCATGCAT

Tepidanaerobacter_acetatoxydans_Re1_Tepi_acet_Re1_tRNA-Gly-GCC-1-1 Bacillota

GCGGAAG**TG**GCTCAG**TGGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Terribacillus_aidingensis_MP602_Terr_aidi_MP602_tRNA-Gly-GCC-1-1 Bacillota

GCGGAAG**T**AGTTC**A**G**TGGTA**GAACACCACCT**TGCCA**AGGTGGGGGtCGCGAG**TTCAA**ATCTCGTCTTCCGCTCCA

Terriglobus_roseus_DSM_18391_Terr_rose_DSM_18391_tRNA-Gly-GCC-1-1 Acidobacteriota bacteria

GCGGGAG**T**AGCTC**A**G**TGGTA**GAGTGCTTCCT**TGCCA**AGGAAGATGtCGCGGG**TTCAA**ATCCCGTCTCCCGCTCCA

Thaumarchaeota_archaeon_SAT1_Thau_arch_SAT1_tRNA-Gly-GCC-1-1 Thaumarchaeota archaea

GCGGCTG**T**AGTATAGCC**TGG**CcAGTACGCGGGAT**TGCCA**ATTCTGTGACCCGGG**TTCAA**ATCCCGGCAGCCGCA

Thermacetogenium_phaeum_DSM_12270_Ther_phae_DSM_12270_tRNA-Gly-GCC-1-1 Acidobacteriota bacteria

GCGGAAG**T**AGCTCAGC**GGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGcCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Thermanaerovibrio_acidaminovorans_DSM_6589_Ther_acid_DSM_6589_tRNA-Gly-GCC-1-1 Synergistota bacteria

GCGGAAG**T**AGCTCAGG**GGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Thermococcus_barophilus_MP_Ther_baro_MP_tRNA-Gly-GCC-1-1 Euryarchaeota

GCGGTGG**T**AGTCTAGCC**TGG**CctAGGACAGCGGC**CTGCCA**CGCCGCGGGCCCGGG**TTCAA**ATCCCGGCCACCGCACCA

Thermodesulfatator_indicus_DSM_15286_Ther_indi_DSM_15286_tRNA-Gly-GCC-1-1 Thermodesulfobacteriaceae bacteria

GCGGGAG**T**AGCTCAGT**TGGTA**GAGCGCCACCT**TGCCA**AGGTGGATGtCGCGGG**TTCAAG**TCCCGTCTCCCGCTCCA

Thermodesulfovibrio_yellowstonii_DSM_11347_Ther_yell_DSM_11347_tRNA-Gly-GCC-1-1 Methanococcaceae archaea

GCGGGTG**T**AGCTCAGC**TGGTA**GAGCACAACCT**TGCCA**AGGTTGGGGtCGCGGG**TTCAA**ATCCCGTCGCCCGCT

Thermofilum_carboxyditrophus_1505_Ther_carb_1505_tRNA-Gly-GCC-1-1 Thermofilaceae archaea

GCGGCCG**T**AGTCTAGTC**TGGTA**GGATGGCGGC**CTGCCA**CGCCGCAGAaCCCGGG**TTCAA**ATCCCGGCGGCCGCACCA

Thermogladius_cellulolyticus_1633_Ther_cell_1633_tRNA-Gly-GCC-1-1 Crenarchaeota

GCGGCGG**T**CGTCTAGCC**TGG**ActAGGACGCCGGC**CTGCCA**CGCCGGAAAtCCCGGG**TTCAA**ATCCCGGCCGCCGCA

Thermoplasma_volcanium_GSS1_Ther_volc_GSS1_tRNA-Gly-GCC-1-1 Thermoplasmataceae archaea

GCGGGTG**TG**GTGTAGCC**TGG**CAACACGCGAGCT**TGCCA**AGCTCGTGcCTCGGG**TTCAA**ATCCCGACATCCGCA

Thermoproteus_neutrophilus_V24Sta_Pyro_neut_V24Sta_tRNA-Gly-GCC-1-1 Thermoproteaceae archaea

GCGGCGG**T**AGTCTAGCC**TGGT**TTGGACGACGGGCGGTCCCGTCGCCCCGGAGTAGGATGGCGGC**CTGCCA**AGCCG
TTGATCCCGGG**TTCAA**ATCCCGGCCGCCGCACCA

Thermosediminibacter_oceani_DSM_16646_Ther_ocea_DSM_16646_tRNA-Gly-GCC-1-1 Bacillota

GCGGAAG**TG**GCTCAGG**GGTA**GAGCATCGCCT**TGCCA**AGGCGAGGGtCGCGGG**TTCAA**ATCCCGTCTTCCGCTCCA

Thermosipho_africanus_TCF52B_Ther_afri_TCF52B_tRNA-Gly-GCC-1-1 Thermotoga bacteria

GCGGGTG**T**AGCTC**A**G**TGGTA**GAGCGCCTGCT**TGCCA**AGCAGGAGGtCGCGGG**TTCAA**ATCCCGTCGCCCGCTCCA

Thermosphaera_aggregans_DSM_11486_Ther_aggr_DSM_11486_tRNA-Gly-GCC-1-1 Proteoarchaeota archaea

GCGGCGG**T**CGTCTAGCC**TGG**ActAGGACGCCGGC**CTGCCA**CGCCGGAAAtCCCGGG**TTCAA**ATCCCGGCCGCCGCA

Thermovibrio_ammonificans_HB-1_Ther_ammo_HB_1_tRNA-Gly-GCC-1-1 Desulfurobacteriaceae bacteria

GCGGGCG**T**AGCTCAGT**TGGTA**GAGCGCAACCT**TGCCA**AGGTTGAGGtCGCGGG**TTCAAG**TCCCGTCGCCCGCTCC
A

Thermus_oshimai_JL-2_Ther_oshi_JL_2_tRNA-Gly-GCC-1-2 Deinococcota bacteria

GCGGGAG**T**AGCTCAGT**TGGTA**GAGCACGACCT**TGCCA**AGGTCGGGGtCGCGGG**TTCAAG**TCCCGTCTCCCGCTCCA

Thermus_scotoductus_SA-01_Ther_scot_SA_01_tRNA-Gly-GCC-1-2 Deinococcota bacteria

GCGGGAG**T**AGCTCAGT**TGGTA**GAGCACGACCT**TGCCA**AGGTCGGGGtCGCGGG**TTCAAG**TCCCGTCTCCCGCTCCA

Thuidium_tamariscinum_Ttama2_tRNA-Gly-GCC-2-1 Bryophyta

GCGGAA**AT**AGCTT**AATGGTA**GAGTATAGCCT**TGCCA**AGGCTGAGGtTGAGGG**TTCAAG**TCCCTTTTTCCGCT

Treponema_denticola_ATCC_35405_Trep_dent_ATCC_35405_tRNA-Gly-GCC-1-1 Spirochaetota

GCGGGA**AT**AGCTC**A**G**TGGTA**GAGCGCCACCT**TGCCA**AGGTGGATGtCGCGAG**TTCAA**TCCTCGTTTCCCGCT

Trichechus_manatus_latirostris_Tmana1_tRNA-Gly-GCC-13456-1 Mammals (manatee)

ACCCTGG**TG**GCTC**A**G**TGGT**tAAAGCGCTTGG**CTGCCA**ACCAAAAGGtCATTGG**TTCAA**ACCCATTagctgctCTGTGGGA

Triticum_aestivum_Taest1_tRNA-Gly-GCC-62-1 Plant (wheat)

GCACCAG**TG**GTCTAG**TGGTA**GAATAGTACC**CTGCCA**TGGTACAGaCCTGGG**TTCAA**TTCCTGGCTGGTGGA

Turneriella_parva_DSM_21527_Turn_parv_DSM_21527_tRNA-Gly-GCC-1-1 Spirochaetota bacteria

GCGGGA**AT**AGCTC**A**G**TGGTA**GAGCACCTCCT**TGCCA**AGGAGGGGGtCGTGGG**TTCAAG**TCCCATTTCCCGCT

Tursiops_truncatus_Ttrun2_tRNA-Gly-GCC-166-1 Mammals (dolphin)

GCATTGG**TG**ATTC**A**G**TGGTA**GAATTCTTGC**CTGCCA**CGTGGGAGGCCAGGG**TTCAA**TTCCCAGCCAATGCA

Ustilago_maydis_521_Usti_mayd_521_tRNA-Gly-GCC-2-1 Fungus

GCATTGG**T**AGTGT**A**G**TGGTA**TCACGGGACGT**TGCCA**gcccgcctta**TTCAAG**gcttaaccacgaatTCGTC

Vicugna_pacos_Vpaco2_tRNA-Gly-GCC-4-1 mammals (alpaca)

GGAGGg**T**ATAGCTC**A**G**TGGTA**GAGTGCATGC**CTGCCA**TGCACAAGGtCCTGGG**TTCAA**TCCCCAGTACCTCCA

Vitis_vinifera_Vvini_tRNA-Gly-GCC-2-1 Plant (grape)

GCGGAA**AT**AGCTT**AATGGTA**GAGCATAGCCT**TGCCA**AGGCTGAGGtTGAGGG**TTCAAG**TCCCTCCTTCCGCT

Volvariella_volvacea_V23_Volv_volv_V23_tRNA-Gly-GCC-1-2 Fungus

GCATTA**ATG**GGGTAG**TGGTA**ACCTGGGTCGT**TGCCA**TTCGAttcc**TTCAAG**cTCGACCCGcCGGG

Waddlia_chondrophila_WSU_86-1044_Wadd_chon_WSU_86_1044_tRNA-Gly-GCC-1-1 Waddliaceae bacteria

GCGGGTG**T**AGCTC**A**GC**GGTA**GAGCATCACGT**TGCCA**ACGTGAGGGtCGTGAG**TTCAA**ATCTCATCACCCGCT

Xenopus_tropicalis_Xtrop9_tRNA-Gly-GCC-4-1 Frog

GCATTGG**TG**GTTC**A**G**TGGTA**GAATTCTCGC**CTGCCA**CGCGGGAGGCCCGGG**TTCAA**TTCCCGGCCAATGCA

Candidate_division_SR1_bacterium_RAAC1_SR1_tRNA-Gly-GCC-1-1 Bacteria

GCAGGC**AT**AGCTCA**A**T**TGG**CtAGAGCGCTTCCT**TGCCA**AGGAAGAGGtTGCGGG**TTCAA**ATCCCGTTGCTTGCTCCA

Uncultured_Termite_group_1_bacterium_phylotype_Rs-D17_tRNA-Gly-GCC-1-1 Cellulolytic bacteria

GCGGGTG**T**AGTTC**A**G**TGGTA**GAACGTCTCGT**TGCCA**ACGAGAAGGtCGTGGG**TTCAAG**TCCCATCGCCCGCT

The above list of 246 species is extracted from GtRNAdB (http://lowelab.ucsc.edu/GtRNAdb/), which contains 18,047 tRNA-Gly^{GCC} from 4,857 species: Eukaryota 599 12.3%, Archaea 220 (4.5%) and Bacteria 4,038 (83.1%). The 241 species are the only from the 4,857 species which have both the pentamers TGCCA in the anticodon loop and TTCAA in the Tψ-loop of their tRNA-Gly^{GCC} cloverleaf structure. The high proportion of Archaea (54/246 = 22%) is due here to the primitive character of the AL-decamer *TGCCATTCAA*. The remaining part of AL, *GATGAATGGTAC*, occurs in articulation and D-loop of the cloverleaf.

Table S2. AL-pentamer content in nucleolin (NCL)) of species of Figure 2C. Red color represents P-pentamers, blue color corresponds to overlaps.

Macaca fascicularis nucleolin (NCL), transcript variant X2, mRNA NCBI Reference Sequence: XM_045367879.1

ATTAGTGGGGAGGTCTCGCGGCTTCTGGCTAGTTGGTGGCGAGGTGAAGAGCTTCTGCAGGCAGGTAAAA
A**TCAAG**GTGACCC**CAAGA**AAATGGCTCCTCCTCCAAAGGAGGTAGAAG**AAGAT**AGTG**AAGATGAA**GAAAT
GTCAG**AAGATGAA**G**AAGATGA**TAGCAGTGGAGAAGAGGTTGTCATACCTCAGAAGAAAGG**CAAGA**AGGCT
GCTGCAACCTCAGCAAAGAAGGTGGTAGTTTCCCCAACAAAAAAGGTTGCAGTTGCCACACCAGC**CAAGA**
AAGCAGCTGTCACTCCAGGCAAAAAGGCAGCAGCAACACCTGC**CAAGA**AGACAGTGACACCAGCCAAAGC
AGTTGCCACACCTGG**CAAGA**AGGGAGCCACACCAGGCAAAGCATTGGTAGCAACCCCTGGTAAGAAGGGT
GCTGCCATCCCAGCCAAGGGGGCAAAGAATGGTAAGAATGC**CAAGA**AGGAAGACAGT**GATGAA**GAGGAGG
AG**GATGA**CAGTGAGG**AAGATGATGA**G**GATGATGA**GGACG**AAGATGA**G**GATGAAGATGAA**ATTGAACCAGC
AGT**GATGAA**AGCAGCAGCTGCTGCCCCTGCCTCAGAG**GATGA**G**GATGATGA**G**GATGATGAAGATGATGA**G
GATGAG**GATGATGA**C**GATGA**GG**AAGATGA**CTCTGAAGAAGAAGCTATGGAGACTACACCAGCCAAAGGAA
AGAAAGCTGCAAAAGTTGTTCCTGTGAAAGC**CAAGA**ACGTGGCTGAG**GATGAAGATGAA**GAAGAG**GATGA**
TGAGGACGAG**GATGATGA**CGAC**GATGAAGATGATGA**G**GATGAAGATGATGATGATGAAGATGA**GGAGGAA
GAAGAGGAGGAGGAAGAGCCTGTCAAAGAAGCACCTGGAAAACGAAAGAAGGAAATGGCCAAACAGAAAG
CAGCTCCTGAAGC**CAAGA**AACAGAAAGTGGAAGGCACAGAACCGACTACAGCT**TTCAA**TCTCTTTGTTGG
AAACCTAAACTTTAACAAATCTGCTCCTGAGTTAAAAACTGGTATCAGCGATGTTTTTGCTAAAAATGAT
CTTGCTGTTGTGGATGTCAGAATTGGTATGACTAGGAAATTTGGTTATGTGGATTT**TGAAT**CTGCTGAAG
ACCTGGAGAAAGCCTTGGAACTCACTGGTTTGAAAGTCTTTGGCA**ATGAA**ATTAAACTAGAGAAACCAAA
AGGAAAAGACAGTAAGAAGGAGCG**AGATG**CGAGAACGCTTTTGGCTAAAAATCTCCCTTACAAAGTTACT
CAG**GATGAAT**TGAAAGAAGTGTTTG**AAGATG**CTGCGGAGATCAGATTAGTCAGCAAGGATGGGAAAAGTA
AAGGGATTGCTTATAT**TGAAT**TTAAGACAGAAGCTGATGCAGAGAAAACCTTTGAGGAAAAGCAGGGAAC
AGAGATTGATGGGCGATCTATTTCCCTGTACTATACCGGAGAGAAAGGTCAAAA**TCAAGA**CTATAGAGGT
GGAAAGAATAGCACTTGGAGTGG**TGAAT**CAAAAACTCTGGTTTTAAGCAACCTCTCCTACAGTGCAACAG
AAGAAACTCTTCAGGAAGTATTTGAGAAAGCAACTTTTATCAAAGTACCCCAGAACCAAAATGGCAAATC
TAAAGGGTATGCATTTATAGAGTTTGCTTCATTCG**AAGATG**CTAAAGAAGCTTTAAATTCCTGTAATAAA
AGGGAAATTGAGGGCAGAGCAATCAGGCTGGAGTTGCAAGGACCCAGGGGATCACCTAATGCCAGAAGCC
AGCCATCCAAAACTCTGTTTGTCAAAGGCCTGTCTGAGGATACCACTGAAGAGACATTAAAGGAGTCATT
TGACGGCTCTGTTCGGGCAAGGATAGTCACTGACCGGGAAACTGGGTCCTCCAAAGGGTTTGGTTTTGTA
GAC**TTCAA**CAGTGAGGAGGATGCCAAAGCTGCCAAGGAGGCCATGG**AAGATG**GTGAAATTGATGGAAATA
AAGTTACCTTGGACTGGGCCAAACCTAAGGGTGAAGGTGGCTTTGGGGGTCGTGGTGGAGGCAGAGGCGG
CTTTGGAGGACGAGGTGGTGGCAGAGGAGGCCGAGGAGGATTTGGTGGCAGAGGCCGGGGAGGCTTTGGA
GGGCGAGGCGGCTTCCGAGGAGGCAGAGGAGGAGGAGGTGACCACAAGCCACAAGGAAAGAAGACGAAGT
T**TGAAT**AGCTTCTGTCCCTCGGCTTTCCCTTTTCCATTTGAAAGAAAGGACTCTGGGGTTTTTACTGTTA
CCTGATCAATGACAGAGCCTTCTGAGGACATTC**CAAGA**CAGTATACAGTCCTGTGGTCTCCTTGGAAATC
CGTCTAGTTAACAT**TTCAAG**GGCAATACCGTGTTGGTTTTGACTGGAT**ATTCA**TATAAACTTTTTAAAGA
GTTGAGTGATAGAGCTAACCCTTATCTGTAAGTTT**TGAAT**TTATATTGTTTCATCCCATGTACAAAACCA
TTTTTTCCTACAAATAGTTTGGGTTTTGTTGTTGTTTCTTTTGTTATTTTTTTTTTTTTTGCGTTCGTGGG
GTTGTAAAAGAAAAGAAAGCAGAATGTTTTATGGTTTTTGCTTCAGCGGCTTTAGGACAAATTAAAAGTC
AACTCTGGTGCCAGA

Observed number of P-pentamers: O = 121 Pentamers number: 2601
Expected number of P-pentamers: E = 22.86 (σ = 4.78) **O-E = 20.5σ**

Gallus gallus nucleolin (NCL), Mrna NCBI Reference Sequence: NM_205265.1 >NM_205265.1 Gallus gallus nucleolin (NCL) mRNA

GGCCCGCTCCGTTCCCCGCCGCCACCCCCCAGGGACGCGCATTCCCACCCCCCGAGGCAGTTCGGCCGCCGCCCC
AGCGCCGCCAGACACCGCCGCCATCATGGTGAAGCTCGC**CAAGA**CTCC**CAAGA**ATCAA**ATGAA**ACAGAAAAAAAT
GGCGCCTCCCCCCAAAAAGGTCGAGGAAAGCGAAGAGGAAGAGTCCTCCGACTTAGAGGAAAGCAGCGGGGAAGA
GGTGATGGTCCCTCCAAAGAAACAACAAAAAGCAGCAGTTACACCAGC**CAAGA**AGGCTGCTACCCCTGCAAAGAA
GGCTGCTACTCCTGCAAAAAAGGCAGTGACACCAGC**CAAGA**AGGCTGTGGCTACTCCAGCTAAAAAGGCTGTTGC
TCCATCCCCCAAAAAGGCTGCTGTCGTAGGCAAAGGGGCAAAAAATGG**CAAGA**ATGCCAAAAAGGAAGAGAGCGA
GGAGG**AAGATGAA**GAC**GATGAAGATGA**TGAGG**AAGATGA**G**GATGAA**GAAGAGGAGTCT**GATGA**GGAAGAGGAACC
AGCAGTGCCTGTGAAGCCTGCAGCCAAAAAGTCCGCAGCAGCTGTACCAGCCAAAAAGCCTGCAGTTGTGCCAGC

AAAGCAAGAATCTGAGGAGGAGGAGGAGGAAGATGATGAAGAGGAGGACGAGGAAGATGACGAGTCTGAAGATGA
GGCCATGGACACAACTCCTGCTCCTGTGAAGAAACCTACTCCAGCAAAGGCTACACCAGCTAAAGCCAAGGCGGA
GTCTGAAGATGAGGAAGATGAGGAGGATGAGGATGAAGATGAGGAGGATGAAGATGATGAAGAGGAAGATGAGGA
AGAAAGTGAGGATGAAAAACCTGTCAAGGAAGCACCTGGAAAAAGGAAAAAAGAAATGGCCAATAAGAGTGCACC
AGAGGCCAAGAAAAAGAAAACAGAAACACCTGCTTCAGCTTTCTCACTCTTCGTGAAAAACTTGACCCCCACCAA
GGACTATGAAGAACTGAGGACTGCCATCAAAGAATTCTTTGGCAAGAAAAATCTCCAAGTCTCAGAAGTCAGAAT
CGGTTCTTCCAAGCGGTTTGGCTATGTGGACTTCTTATCTGCTGAAGATATGGATAAAGCTCTTCAACATGAAGG
AAAGAAGCTGATGGGTTTGGAAATCAAACTGGAAAAAGCAAAGAGCAAAGAAAGTCTTAAAGAAAATAAGAAAGA
GAGAGATGCCAGAACACTGTTTGTGAAGAATCTGCCCTACCGTGTAACTGAAGATGAAATGAAAAATGTATTTGA
AAACGCTTTAGAAGTCCGACTAGTACTTAACAAGGAAGGGAGCAGCAAAGGGATGGCCTACATATGAATCAAAAC
AGAAGCTGAGGCAGAAAAAGCACTGGAGGAGAAGCAAGGCACAGAGGTTGACGGTCGTGCCATGGTCATTGACTA
CACCGGTGAGAAGAGCCAACCAAGAAAGTCAGAAAGGAGGTGGAGAGAGGGAGTCAAAGACTCTGATTGTGAACAA
CCTGTCATATGCTGCCTCAGAAGAAACTCTCCAGGAACTGTTTAAAAAAGCGACTTCCATCAAGATGCCACAGAA
CAACCAGGGCAGGCCTAAAGGGTATGCATTTGTAGAATTTCCCACAGCCGAGGATGCCAAAGAGGCATATGAATC
CTGTAACAACACAGAAATTGAAGGCAGAGCAATCAGGCTGGAATTCAGTTCACCATCGTGGCAGAAAGGGAACAA
TGAAGCAAGAGGAGGATTTAACCAACAAAGCAAAACATTGTTTGTCAGAGGCCTTTCTGAGGACACAACGGAGGA
GACGCTAAGAGAATCATTTGAAGGCTCTATAAGTGCTAGAATAGTCACAGATAGAGACACTGGATCTTCTAAAGG
GTTTGGTTTTGTGGACTTCAGCTCCCCAGAAGATGCCAAAGCAGCTAAAGAAGCTATGGAGGATGGAGAGATAGA
CGGAAACAAAGTGACCCTTGATTTTGCCAAACCAAAGGGATGAATTCAGCGTGGCGGCGGATTTGGTGGTGGATT
TGGTGGTCGTGGTGGCAGAGGAGGCAGAGGAGGAGGAAGAGGTGGATTTGGTGGCAGAGGTGGTGGCAGAGGGTT
TGGAGGTAGAGGAGGTGGCTTCCGAGGAGGCAGAGGAGGAGGTGGAGATCACAAGCCACAAGGGAAGAAGATCAA
GTTATGAAAAACTTCCCTTTTCCTTTCCCTTCTCTTGATCTCTGAGACTATCTGAAAGGACTCCAGGGGTTTTTA
TTCTCCTTTTATCTTGGTGGAGCCTTCGGAGGACATTCCAAGGTGCAAAGGAGTACTGTGAGCCACTTGGAAGAA
AGAATTTTCATTTCAAGGAAGAAAAGCAAGCTATTTTGTCTGCTTGCTTATTCAAGTGAACTTTTTAACAGAAAT
GAGCGATAGCTGTGGGAATTTACCCTTTGTCTGTGAGTTGTCTATGAATTATAATGTTTTACCCATGTACAAAAA
TATTTTTTTCCTATAAACTTCTGTAGCATTTTTTTGCTGTAAAAATGCAGAATGTTTTATCATTTGTGCTTCAGC
ACCCTGTCTTGGACAGATTAAAGGAC

94 2572 22.6 (4.75) **19.8σ**

Bos taurus nucleolin (NCL), mRNA NCBI Reference Sequence: NM_001206660.1 >NM_001206660.1 Bos taurus nucleolin (NCL) mRNA

GATTACTGGGCAGGCTCAGTCTTTCGCCTCAGTCTCGAGCGCTAGCTGGCAGCCAAGCGTACGCGCTCAGGGATT
AGCGGCCGCCATCGACGGTGCTTAGGTTCCTCTGGACTCGTCTGCGCCACTCGCTCGCCACACACTCCGCCGTCA
TAAGCCGCCATCATGGTAAAGCTCGCAAAGGCCGGTAAAAATCAAGGTGACTCCAAGAAAATGGCTCCTCCCCCA
AAGGAGGTAGAAGAAGATAGTGAAGATGAGGAAATGTCAGAAGATGAAGACGATGAGAGCAGTGGAGAAGAGGTT
GTTATCCCTCAGAAAAAAGGCAAGAAGGCTGCCACAACTCCAGCAAAGAAGATGGTGGTTTCCCCAACAAAAAAG
GTTGCAGTTGCCACACCAGCAAAGAAAGCAGTTGTCACCCCTGGCAAAAAGGCAGCAGCTATGCCAGCCAAGAAG
ACAGTTACACCTGCCAAAGCAGTGGTTACACCTGGCAAAAAGGGAGCCACCCCAGGCAAAGCAGTGGTAGCAACC
TCTGGTAAGAAGGGAGCAGCCACCCCAGGCAAGGGAGCAAAGAACGGCAAGAATGCCAAGAAGGAAGACAGTGAT
GAAGAAGATGAAGATGACAGTGAAGAGGAAGACGATGATGATGAAGAGGAGGATGAGCCAGCAGTGAGGAAGGCA
GCTGCTGCTTTTGGTGCTGCTCCTGCCACAGATGATGAGGATGACGAGGATGACGATGATGACGACGATGAGGAG
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GGAAAGAAAGCTCCAGTAAAAGCTGTTCCTGTGAAGGCTAAGAGCACTGCTGAAGATGAAGATGAAGAGGATGAT
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TCTGTAAGTTTTGAATTTATATTGTTTCTTCCCATGTACAAAACCATTTTTTTCCTACAGAGTTTGTTTTTTTGT
TTTTTTGTTTTTTTTTTTTTGCGTTGGGGGGTGTAAAGGAAAGCAGAACGTTTTATCATGATTTTTGCTTCAGCAA
TTTTGGGACAGATTAAAAGTCCTAGAACTCTGGTGCCAGCCTTGTAAAAAAAAAAAAAAAA

96 2757 24.2 (4.9) **19.6σ**

Budorcas taxicolor nucleolin (NCL), Mrna NCBI Reference Sequence: XM_052656563. >XM_052656563.1

CAGTCTTTCGCCTCAGTCTCGAGCGCTAGCTGGTTGCCAAGCGTACGCGCTCAGGGATTAGTGGCCGCCATCGAC
GGTGCTTAGGTTCCTCTGGGCTCGTCTGCGCCACTCGCTCGCCACACACTCCGCCGTCATAAGCCGCCATCATGG
TAAAGCTCGCAAAGGCCGGTAAAAATCAAGGTGACTCCAAGAAAATGGCTCCTCCCCCAAAGGAGGTAGAAGAAG
ATAGTGAAGATGAGGAAATGTCAGAAGATGAAGACGATGAGAGCAGTGGAGAAGAGGTTGTTATCCCTCAGAAAA
AAGGCAAGAAGGCTACCACAACTCCAGCAAAGAAGATGGTGGTTTCCCCAACAAAAAAGGTTGCAGTTGCCACAC
CAGCAAAGAAAGCAGTTGTCACCCCTGGCAAAAAGGCAGCAGCTATGCCAGCCAAGAAGACAGTTACACCTGCCA
AAGCAGTGGTAACACCTGGCAAAAAGGGAGCCACCCCAGGCAAAGCATTGGTAGCAACCTCTGGTAAGAAGGGAG
CAGCCACCCCAGGCAAGGGAGCAAAGAACGGCAAGAATGCCAAGAAGGAAGACAGTGATGAAGAAGATGAAGATG
ACAGTGAAGAGGAAGACGATGATGATGAAGAGGAGGATGAACCAGCAGTGAGGAAGGCAGCTGCTGCTTTTGGTG
CTGCTCCTGCCACAGATGATGAGGATGACGAGGATGACGATGACGATGATGATGATGAGGAGGAGGAGGATGAGG
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AGGAAGAGGATGACGATGACGAGGAGGAGGACGATGAGGAGGAAGAGGAGGAGGAGGAGGAGGAGGAAGAAGAGG
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CTGAAGCCAAGAAACAAAAAGTGGAAGGCACAGAACCAACTACGTCTTTCAATCTCTTTATTGGAAACCTGAACT
TCAATAAATCTGCTCCTGAATTGAAAACGGGTATCAGTGATATTTTTGCTAAAAATGATCTTGCTGTTGTCGATG
TCAGAATTGGTGTGTCTAGGAAGTTTGGCTATGTGGATTTTGAATCTGCTGAAGACCTGGAAAAAGCCTTGGAGC
TCACTGGTTTAAAAGTCTTTGGCAATGAAATTAAACTAGAAAAACCAAAGGGAAAAGACAGTAAGAAAGATCGAG
ATGCAAGAACACTTTTGGCTAAAAATCTGCCTTACAAAGTTACTCAGGATGAATTAAAAGAAGTGTTTGAAGATG
CTGTGGAGATCAGATTAGTCAGCAAGGATGGAAAGAGTAAAGGGATTGCTTATATTGAATTTAAGACAGAAGCTG
ATGCAGAAAAAAACCTTGGAAGAAAAGCAGGGAACAGAGATAGATGGGCGATCCATTTCTCTGTACTACACCGGAG
AGAAAGGCCAAAGTCAAGACCATAGAGGTGGAAAGAATAGCACTTGGAGTGGTGAATCAAAAACCCTGGTTTTAA
GCAACCTCTCCTATAGTGCAACAGAAGAAACACTTCAGGAAGTATTTGAGAAGGCAACTCATATCAAGGTGCCCC
AGAACCAAAATGGCAAATCTAAAGGGTATGCATTTATAGAATTTGCTTCATTTGAAGATGCTAAAGAAGCTTTAA
ATTCATGTAATAAAAGGGAAATTGAGGGCAGAGCCATCAGACTGGAGTTGCAAGGACCCAGGGGATCACCTAATG
CAAGAAGCCAGCCATCCAAGACTCTCTTTGTCAAAGGTCTCTCTGAGGATACCACAGAAGAGACGTTAAAGGAGT
CCTTTGATGGCTCTATTCGAGCAAGGATAGTCACTGACCGGGAGACTGGGTCCTCCAAAGGGTTTGGTTTTGTAG
ACTTTAACAGCGAGGAAGATGCCAAAGCTGCCAAGGAGGCCATGGAAGATGGTGAAATCGATGGAAACAAAGTCA
CTTTGGATTGGGCCAAACCTAAGGGTGAAGGTGGCTTTGGTGGCCGAGGAGGAGGCAGAGGTGGCTTTGGAGGCC
GAGGTGGTGGCAGAGGTGGCCGAGGTGGCTTTGGTGGCAGAGGCCGGGGAGGCTTTGGAGGGCGAGGAGGCTTCC
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TGTCTCTCCCTCTTCCATTTGAAAGGAAAGGACTCTGGGGTTTTTACTCTGTTACCTGATCAATGACAGAGCCTT
CTGAGGACATTCCAAGACAGTATACAGCCCTGTGGTCTACTTGGAAATCCATATAGATAACATTTCAAGGGAGAT
AACCCTGTTGGTGTTGACTGGATATTCGTATAAACTTTTTAAAAGAGATGAGTGATAGAGCTAACCCTTATCTGT
AAGTTTTGAATTTATATTGTTTCTTCCCATGTACAAAACAATTTTTTTCCTACGGAGTTTTTTTTTTTTTTGCGC

GTTGGGGGGGTGTAAAGGAAAGCAGAATGTTTTATCATGATTTTTGCTTCAGCAATTTTGGGACAGATTAAAAGT
CCTAGAACTCTG

96 2708 23.8 (4.9) **19.6σ**

Rattus norvegicus nucleolin (Ncl), mRNA NCBI Reference Sequence: NM_012749.2

CTGGCAGGCGGTTGTACGTGCTCCAGAGTCTTCATTACCCGCCGATCCAGTCGTCTTCGCGTGGGTTCCG
CTAAGCTCTTCTGAGCTGCTCGCTCTCTACACACGCCGTCGCCGTAATCCGCCATCATGGTGAAACTCGC
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CACACCAGCTAAGAAAGCAGCTGTTACCCCAGGCAAAAAGGCAGCAGCCACACCAGCCAAGAAAGCTGTT
ACACCAGCCAAAGTAGTTCCAACACCTGGTAAAAAGGGAGCTGCACAAGCAAAAGCATTGGTACCAACTC
CTGGTAAAAAGGGAGCTGTCACTCCAGCCAAGGGGGCTAAGAATGGTAAGAATGCCAAGAAGGAAGACAG
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AGGAAGATGATGATGATGAAGAAGATGATGATGATGATGATGAAGAGGAGGAGGAGGAAGATGACTCTGA
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ATGAAGAGGACGATGAAGATGAGGATGAGGAAGAAGAGGAAGAACCTGTTAAAGCAGCACCTGGAAAACG
GAAGAAGGAGATGACCAAGCAGAAAGAAGCCCCTGAAGCCAAGAAACAGAAAATAGAAGGCTCAGAACCA
ACTACACCTTTCAACCTGTTCATTGGAAACCTTAATCCAAACAAGTCTGTTGCTGAATTAAAAGTTGCCA
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GAAGAGACCTTAAAAGAATCATTTGAGGGCTCTGTTCGTGCAAGAATAGTAACTGATCGGGAAACTGGTT
CTTCTAAAGGGTTTGGTTTTGTAGACTTTAATAGTGAGGAAGATGCCAAAGCTGCCAAGGAGGCCATGGA
AGATGGAGAAATTGATGGAAACAAAGTTACCTTGGACTGGGCCAAACCTAAGGGTGAAGGTGGCTTTGGT
GGTCGAGGTGGAGGCAGAGGAGGTTTCGGAGGCAGAGGTGGTGGCAGAGGCGGAAGAGGCGGATTTGGCG
GAAGAGGCCGGGGAGGCTTTGGAGGCAGAGGAGGCTTCCGAGGCGGCAGAGGAGGCGGGGGAGACTTCAA
GCCACAAGGAAAGAAGACGAAGTTTGAATAGTTCCTTCCATCCCATTCTTTCCCTCTTCATTTTAAAGAA
AGGACTCTGGAGTTTTTACTCTGTTACCTGTTGAATGACAGAGCCTTTTAAGGACATTCCAAGACAGTAA
AGATCCTAAACTCTGAA

107 2393 21 (4.6) **18.8σ**

Solanum lycopersicum nucleolin (LOC101260453), mRNA NCBI Reference Sequence: XM_010326160.3

CAACTGCGCCACCACCCCAATTGTTCACTAACTATCACATATTATTATTTAATCCTAGAAGTTAAAAACT
TTGTCAATAAACGCCATCGTTCTTGCTCTATCTTCTTACATGTCTAGGGTTTTTCACATCTTCCCCTCTT
TCATCACCAAGCAAACCCCTCATTCAGTCTCAGGTGAATTTTCCGACATGGCTATCGTCAATGATGAACG
CGAGTTTGAGGAAGAAACAACTCATGAAGATCTCCAAGAGTTTGACGAAGATGCGGAAGTGGACGCCGAG
GACGATGATGACGAGGACGATGATGATGAAGACGGTGATGAGGATGATGATCAGGAGGAGAAAGAGGTCA
TACAGAGCTCTGGCAGTGGTCCACAAGTTCACTCTATAGATGATGATGAGGAGGATGAGGATGAGGATGA
TGAGGACGATGAAGGTGACAGTGATGATGATGACGACGACGACGACGATGATGAAGATGATGAAGATGAG
GAGGAAGGTGAAGAAGAGGGAGATCTGGGCACGGAGTATCTTGTTAGGCCAGTGGCACGTGCTGAGGATG
AAGAAGATGCTAGTGATTTTGAACCAGAAGAAAATGGCGAGGAAGAGGGTTTTGAGGAGGAAGAGGAAGA
GGATGATGATGAAGACACTAGCGGAAAGGTGGAGGCCCCGCCAAAGAGGAAGAGATCAAGCAAAGATGAT
GACTCTGACGATGATGATGGCGGAGAGGATGAGGATGAGGATGATGAGAGACCATCTAAACGATAGTCGA
TAGGCCCTATATAGTATAGAGGTCAATCCCCCTTCATGTATGATGGATGATGGTTCTTGTAGTCCTTAGT
TCTAATCACTGTTGGGATTATGACACCATTTTAGTTTAGTTTAGTTTAGTTTAGTTTAAGAACTTTGGTT
CAAGATTTTTTTTTTAATTGTATGTGTTGGTGTTTTTTAGTTGTTCAACTCTGTTTGGTCTGCTATTTTG
GTGCAAGTATTTATATATGGTGGGCTTAGTTTAAACACA

63 1015 8.9 (3) **18.1σ**

Hydrotalea sandarakina strain DSM 23241 LX80DRAFT_scaffold00007.7, GenBank: QKZV01000007.1: c63436-63011 nucleolin

ATGGCAG**CAAGAT**CTGATAAGGATAAAAAATCCGAACCCAACAAAAAAGTACCTGAAACGGGTAGTAAAA
AAGTATC**TTCAA**AAAAGAAAATTGAAG**AAGATGATGA**TTTT**GATGAAGATGATGAAGATG**TAAAACCAAA
AAAATCTGCAGCAGCTTC**TTCAA**AAAAGAAAAAAATTG**AAGATGATGATGA**C**GATGA**TTATGAG**GATGAA**
ATAG**AAGATGA**TTGGGAAAAACCAGAAG**AAGATGA**TGACTGGGATCCCGACTTC**GATGAAT**TTGACATTC
CCAAATCA**TCAAG**TAAAAAAGCAGGTGGCTCTAAAAAGAAATCATCAA**AAGATGATGA**CGACGACGACTT
TAAAATT**GATGAAGAT**TTTAAAGAGTTCGATTTATTT**GATGA**CAAG**GATGA**TTTT**GATGA**C**GATGA**CGAT
TTTTAA

46 422 3.7 (1.9) **16.8σ**

Rhinolophus ferrumequinum nucleolin (NCL) mRNA NCBI Reference Sequence: XM_033112353.1

CAGAGGCGATTACTGGGCAGGCTCAGTCTTTCGCCTCAGTCTCGAGCTCTAGCTGGCAGCCAAGTATACGCGCTC
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ACATTCCGCCGTCATAAACCGCCATCATGGTAAAGCTTGCAAAGGCCAGTAAAAA**TCAAG**GTGACCC**CAAGA**AAA
TGGCTCCTCCCCCAAAGGAGATAGAAG**AAGAT**AGTG**AAGATGA**GGAAATGTCAG**AAGATGAA**G**AAGATGAA**AGCA
GCGGAGAAGAGGTTGTCATTCCTCAGAAAAAAGG**CAAGA**AGGCTACCACTACTCCAGCAAAGAAGGTGATGGTTT
CCCCAACAAAAAAGGTTGCAGTTGCCACACCAGC**CAAGA**AAGCAGTTGTCACCCCCAGCAAAAAGGCAGTGGCTA
CACCAGCCCTTGCCAAAAAGGCAGCAGTTACACCAGCCAAAGCAGTGGTGACACCTGG**CAAGA**AGGGAGCCACAC
CAGGCAAAGCATTGGTAGCAACCCCTGGCAAAAAAGGAGCAGCCACCCCAGCCAAGGGAGC**CAAGA**ATGG**CAAGA**
ATGC**CAAGA**AGGAAGACAGT**GATGA**GG**AAGATGA**TGACAGTGAAGAGG**AAGATGA**G**GATGAAGATGA**GGACG**AAG**
ATGAG**GATGA**G**GATGAAT**TTGAGCCAGCAGT**GATGAA**AGCAGCAGCTACTGCTGCTGCCTC**AGATGA**GGAGGAGG
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CCAAACAGAAAGCAGCTCCTGAAGC**CAAGA**AACAGAAGGTGGAAGGCACAGAACCGACCACATCT**TTCAA**TCTAT
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CAAAAACTCTGGTTTTAAGCAACCTCTCCTACAGTGCAACAGAAGAAACTCTTCAGGAAGTATTTGAGAAGGCAA
CTTTTATCAAAGTGCCCCAGAACCAAAATGGCAAATCTAAAGGGTATGCATTTATAGAATTTGCGTCATTTG**AAG**
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AAGGGTTTGGTTTTGTGGAC**TTCAA**TAGTGAGG**AAGATG**CCAAAGCCGCTAAGGAGGCCATGGAAGACGGTGAAA
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GAGGTGGCTTTGGAGGCCGAGGTGGTGGCCGCGGAGGCCGAGGTGGATTTGGTGGCAGAGGCCGGGGAGGCTTTG
GAGGGCGAGGAGGCTTCCGAGGAGGCAGAGGAGGAGGAGACCACAAGCCACAAGGAAAGAAGACGAAGTT**TGAAT**
AGTTTGTTCTATCCCGGTCTTTCCCTTTTCCGTTGGAAAGAAAGGACTCTGGGGTTTTTACTGTTACCTGGTCAA
TGACAGAGCCTTCTAAGGACATTC**CAAGA**CAGCATACAGTCCTGTGGTCTACTTGGAAATCCGTATAGATAACAT
TTCAAGGGAGATAACCCTGTTGGTTTTGACTGGAT**ATTCA**TATAAACTTTTTAAAG**AGATGA**GTGCTAGAGCTAA
CCCTTATCTGTAAGTTT**TGAAT**TTATATTGTTTGTTCCCGTGTACAAAAAAAACACATTTTTTCCTACAATTTTT
GTTTTTCTGCGTTGGGGGGTTCTAAAGGAAAGCAGAATGTTTTATGATTTTGCTTCAGCATTTTGGGACAAATTA
AAAGTCCTAAACTGGT

104 2712 23,83 (4,88) **16.4σ**

Sciurus carolinensis nucleolin (Ncl), mRNA NCBI Reference Sequence: XM_047547319.1

TGGGCAGGCTCAGTCTTTCGCCTCAGTCTCTAGCTGTAGCTGGCCGCCAGGCGTACGTGCTCCGGCATCTTCAGT
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GTCATAACCCGCCATCATGGTGAAGCTCGCAAAGGCCGGTAAAAA**TCAAG**GTGACCC**CAAGA**AAATGGCTCCTCC

ACCAAAGGAGGTAGAAGAAGATAGTGAAGATGAGGAAATGTCAGAAGATGAAGAAGATGACAGCAGTGGAGAGGA
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AAAGGTGGCAATTGCCACACCTGCCAAGAAAGCAGCTGTCGCTTCAGGCAAAAAGGCAGCAGCCACACCAGCCAA
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CGATGAGGAGGAGGATGATGACAGCGAGGAAGATGATGATGAAGATGATGAGGATGAGGATGAAGATGAATTTGA
ACCAGCAGTGATGAAAGCAGCAGCTGCTGCCCCTGCCTCAGAGGATGAGGATGATGATGAGGATGACGACGAAGA
TGATGAGGACGAGGATGAGGAGGAGGAAGATGACTCTGAAGAAGAAGCTATGGAGATCACACCAGCCAAAGGAAA
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CAGATTAGTCAGCAAGGATGGGAAGAGTAAAGGGATTGCTTATATTGAATTTAAGACAGAAGCTGATGCAGAGAA
AACCTTTGAAGAAAAGCAGGGAACAGAGATTGATGGGCGATCTGTTTCCCTCTACTACACTGGAGAGAAAGGTCA
AAATCAAGACTACAGAGGTGGAAAAAATAGCACTTGGAGTGGTGAATCAAAAACTCTGGTTTTAAGCAACCTCTC
TTACAATGCAACAGAAGAAACTCTTCAGGAAGTATTTGAGAAGGCAACTTTTATCAAAGTACCCCAGAACCAAAA
TGGCAAATCTAAAGGGTATGCCTTTATAGAGTTTGCTTCATTTGAAGATGCAAAAGAAGCTTTAAATTCCTGTAA
TAAAAGGGAAATTGAGGGCAGAGCAATCAGGCTGGAGTTGCAAGGACCCAGGGGATCGCCTAACGCAAGAAGCCA
GCCATCAAAAACTCTGTTTGTCAAAGGTCTGTCTGAAGATACCACCGAAGAAACCTTAAAAGAATCATTTGACGG
CTCTGTCCGTGCAAGGATAGTCACTGACCGGGAAACCGGATCCTCCAAAGGGTTTGGTTTTGTAGACTTCAACAG
TGAGGAAGATGCCAAAGCTGCCAAAGAGGCCATGGAAGATGGTGAAATTGATGGAAACAAAGTTACCTTGGACTG
GGCCAAGCCTAAAGGGGAAGGTGGCTTTGGGGGTCGTGGTGGAGGAAGAGGAGGCTTTGGAGGCAGAGGTGGCGG
CCGAGGAGGCAGAGGTGGATTTGGCGGCAGAGGCCGGGGAGGCTTTGGAGGGCGAGGAGGCTTCCGAGGAGGCAG
AGGGGGAGGAGGAGACCACAAGCCACAAGGAAAGAAGACGAAGTTTGAATAGTTTCTTCTGTCCCTGTCTTTCCC
TCTTCCATTTGAAAGAAAGGACTCTGGGGTTTTTAAACTCTGTTACCTGTTCAATGACAGAGCCTTCTGAGGACA
TTCCAAGACAGTATATGGTCCTGTGGTCTACTTGGAAATCGTATAGGTGACATTTCAAAGGAGATACCCTGTTGG
TTTTGACTGGATATTCATATAAACTTTTTAAAGAGATGAGTGATAGAGCTAACCCTTATCTGTAAGTTTTGAATT
TATATTGTTTCATCCCATGTACAAAACTGTTTTTTTTCCTACAAATAGTTTTTTGTTTTGTTTGCGTTGGGGGGT
ATAAAGGAAAGCAGAATGTTTTATGAGTTTTGCTTCAGTGACTTTAGGACAAATTAAAAGTCCTAAACTCTG

103 2693 23,66 (4,86) **16.3σ**

Microtus fortis nucleolin (Ncl), mRNA NCBI Reference Sequence: XM_050123112.1 >XM_050123112.1
AGTCTTTTGCCTCAGACGCTAGTTGTAGCTGGCAGTCAGTCGTACGTGCTCCTGTGTCTTCAGTGCCCGCCGCTG
CCGTCGAGTTCGCGTCGGTTCTCCCGGGCTCTTCTGAGCTGCTTACTGCGCCGCCGCCGTCATCCGCCACCATGG
TGAAGCTCGCAAAGGCCGGCAAAACCCACGGTGAATCCAAGAAAATGGCTCCTCCTCCAAAGGAAGTGGAAGAAG
ATAGTGAGGATGAAGAAATGTCAGAAGATGAAGAAGATGACAGCAGTGGAGAAGAGGAGGTTGTCATTCCTCAGA
AAAAAGCCAAGAAGGCTGTAACTCCAGCAAAGAAGGTAGTTGTTTCACAAACAAAAAAGGTTGCAGTTCCCACAC
CAGCTAAGAAGGCTGCTGTTACCCCAGGTAAAAAGGCAGCAGCCACACCAGCCAAGAAGGCAGTTACACCAGCCA
AAGCAGTTGCAACACCTGGTAAGAAGGGAATCGCACAAGCAAAAGCACTGGTAGCAGCCTCTGGTAAAAAGGGAG
CTGTCACACCAGCCAAGGGCGCTAAGAATGGTAAGAATGCGAAGAAGGAAGAGAGTGATGAAGATGATGACGACG
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ACATGGATCATTGCTGAAATGGCAGTAAAGTAAAGCCATA**CAAGA**

103 2816 24.75 (4.97) **15.7σ**

Bauhinia variegata isolate BV-YZ2020 chromosome 1, GenBank: JAKRYI020000001.1: 6791445-6797144 nucleolin
TCCCAAAACCCTAAACTCTGTGACGCGTAGGGTTTTGCAGAGCTTCTCGTTATCTATCCATTTCCTCGAC
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TAGCTTTCGCATTCTATTTTCTTAATATCTTGTCAGAC

93 2554 22.4 (4.7) **14.9**

Mus musculus nucleolin (Ncl), transcript variant X1, mRNA NCBI Reference Sequence: XM_006529238.4

CCATGCTGGGGGGGAAAGTCTCGCGCGACTAGCGGGAGGTCTCGCGGTGCTTGCCCTCTGACTTAGGGG**G**
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GGTGTGAGGAGAGATCGGAGGAGCTGAGAGCGGATAGGGGCACGGCGTGGGAAGAGAGGGCCAACCTTAG
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AGGGAACAGTGGCCTTTTTGACTTAAAGGTTGTCAGAGGTCCAGTTTAACTAGGGATAATACAGTGGCCC

TTGGCCTGTGTACTTA**ATGAAT**TTTTCAGTGATCT**TTCAAG**

115 3607 31.7 (5.6) **14.9σ**

Rhipicephalus sanguineus nucleolin (LOC119378082) mRNA NCBI Reference Sequence: XM_037647325.2

ATGAAGCTGAAGAAGGC**TCAAG**GGGCACCTGGGGCAAAGCCATCTAAGGCCGGCAAGGAAAAGAAGTTGC**TCAAG**
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C**TCAAGA**ACAACGCATGCCATTACATGGATGGGAATCCAC**TCAAG**TTCTCCTATCGTTTGAAGCCTGCTGGTGCA
GG**CAAGA**AGAAG**AAGAT**CAGAAGGAAGAAATTGAGAGAGAGGCAGCAGCAGACGGAGCTTGGAAAGCCATCCGAT
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64 1390 12,2 (3,49) **14.8σ**

Suncus etruscus nucleolin (NCL), mRNA NCBI Reference Sequence: XM_049769307.1

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95 2673 23,5 (4,84) **14.8σ**

Oenanthe melanoleuca nucleolin (NCL), mRNA NCBI Reference Sequence: XM_056498994.1

GTCGGGGCGGGGGCGGTGAGGGCGGGGTCTGACGCGGGGCAAGGAAAGGGGGCGGAAGGGGCGCGCGCTC
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TGCTGTGTTAGAAGGAAGTAGGGGAG**AAGAT**CATGATGG**TCAAG**GTAATCTCTGTAACCACAACTATATA
TTTTTATTTTTTTTTTAACTG**AAGATG**CTGTGATGGTGCTTGCTAGCCAGTTGCTTTTCTACTTTTTAAA
CAAAGTAAATCAGATCTTGTACTAAG

96 3032 26.6 (5.16) **14.6σ**

Camelus dromedarius breed African isolate Drom800 chromosome 5 nucleolin, mRNA NCBI Reference Sequence: XM_010985648.2

CTGGGCAGGCTCAGTCTTTCGCCTCAGTCCCGAGCTCTAGCTGGCAGCTAAGCGTACGCGCTCTGGGATCTTCAG
TACCAGCGGCCGCCATCGACGTTGCTTGGGTTCCTTTGGGCTCATCTGCGCCACTCGCTCGCTATACACTCCGCT
GTCATAAACCTCCATCATGGTAAAGCTCGCAAAGGCTGGTAAAAA**TCAAG**GTGACTC**CAAGA**AAATGGCTCCTCC
CCCAAAGGAGGTAGAAG**AAGAT**AGCGAAGACGAGG**AGATG**TCAG**AAGATGAAGATGATGA**TAGCAGTGGGGAAGA
GGTCATTATTCCTCAGAAGAAAGGCAAAAAGGCTACCATAACTCCAGCAAAGAAGGTCATGGTTTCCCCAACAAA
AAAGGTTGCAGTTGCCACACCGGCAAAGAAAGCAGTTGTTACCCCTGGCAAAAAGGCAGCGGCTACGGCAGCTAA
GAAGACAGTTACACCACCTGCCAAAGCAGTAGCGACACCTGG**CAAGA**AGGGAGCCACACCAGGCAAAGCGTTGGT
AGCAACCCCTGGTAAGAAGGGAGCAGCCGCCCCAGCCAAGGGAGCAAAGAATGGTAAAAATGCCAAAAAGGAAGA
GAGT**GATGA**GG**AAGATGATGA**CGACAGTGAAGAGGAG**GATGA**G**GATGA**CG**AAGATGA**G**GATGAAGATGAAT**TTGA
GCCAGCAGT**GATGAA**AGCTGCTGCTGCTGCTCCTGCCTC**AGATGA**TGAG**GATGATGA**G**GATGAAGATGA**T**GATGA**
AGAC**GATGATGA**G**GATGA**T**GATGA**G**GATGAA**GAGGATTCTGAAGAAGAAGCTATGGAGACTGCACCACCCAAAGG
AAAGAAAGCTCCAGCAAAAGCTGTTCCTGTGAAGGC**CAAGA**GTGCTGCTGAG**GATGAAGATGAA**GAG**GATGA**C**GA**
TGAGGACGAGGAG**GATGAA**GAG**GATGA**CGACGAGGAG**GATGA**TGAG**GATGA**C**GATGA**GGAGGAGGAGGAGGAC**GA**
TGAGGAGGAGGAGGAGGAGGAAGAGGAGGAAGAGCCTGTCAAAGAAGCACCTGGAAAACGAAAGAAAGAAATGGC
CAAACAGAAAGCAGCTCCTGAAGC**CAAGA**AGCAGAAAGTGGAAGGCACAGAACCAACCACAGCTTTAATCTCTTT
GTTGGAAACC**TGAAT**TTCAGCAAATCTGCTCC**TGAAT**TAAAAACGGGTATCAGTGACCTTTTTGCTAAAAATGAT
CTTGCTGTTGTCGATGTCAGAATTGGTGTGTCTAGGAAGTTTGGCTATGTGGATTTTGAGTCTGCTGAAGACCTG
GAAAAAGCCTTGGAACTCACTGGTTTAAAAGTCTTTGGCA**ATGAA**ATTAAACTAGAAAAACCAAAGGGAAAAGAC
AGTAAGAAGGATCG**AGATG**CGAGAACACTTTTGGCTAAAAATCTGCCTTATAAAGTTACTCAG**GATGAAT**TAAAA
GAAGTGTTTG**AAGATG**CTGTGGAGATCAGATTAATCAGCAAGGATGGAAAGAGTAAAGGGATTGCTTTTAT**TGAA**
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CTGTACTATACTGGAGAGAAAGG**TCAAG**G**TCAAGA**CCCTAGAGGTGGAAAGAATAGCACTTGGAGTGG**TGAAT**CA
AAAACTCTGGTTTTAAGCAACCTTTCCTTCAGTGCAACAGAAGAAACTCTTCAGGAAGTATTTGAGAAGGCAACT
TTTATCAAAGTGCCCCAGAGCCAAAATGGCAAATCTAAAGGGTATGCGTTTATAGAATTTGCTTCCTTTG**AAGAT**
GCTAAAGAAGCTTTAAATTCTTGTAATAAAAGGGAAATTGAGGGCAGAGCAATCAGGCTGGAGCTGCAAGGACCC
AGGGGATCACCTAATG**CAAGA**AGCCAGCCATCCAAAACTCTGTTTGTCAAAGGTCTGTCTGAGGATACCACAGAA
GAGACATTAAAGGAGTCGTTTGAGGGCTCTGTCCGTGCAAGGATAGTCACTGACCGGGAAACCGGGTCCTCCAAA
GGGTTTGGTTTTATAGAC**TTCAA**CAGCGAGG**AAGATG**CCAAAGCTGCCATGGAGGCCATGG**AAGATG**GTGAAATT
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GGTGGCTTTGGAGGCCGAGGTGGTGGCAGAGGTGGCCGAGGTGGATTTGGTGGCAGAGGCCGGGGAGGCTTTGGA
GGGCGAGGAGGCTTCCGAGGAGGCAGAGGAGGAGGAGGAGACCACAAGCCACAAGGAAAGAAGACGAAGTT**TGAA**
TAGTTTCTTCTATCCCTGTCTTTCCCTCTTCCATTTGAAAGAAAGGACTCTGGGGTTTCTACTCTGTTACCAATG
ACAGAGCCTTCTGAGGACATTCCAAGGCAGTATACAGCCCTGTGGTCTACTCGGAAATCCATATAGATAACATTT
CACGGGAGATAACCCTGTTGGTTTTGACTGGAT**ATTCA**GATAAACTTTTTAAAG**AGATGA**GTGATAGAGCTAACC
CTTATCTGTAAGTTT**TGAAT**TTATATTGTTTTTTCCCATGTACAAAACCATTTTTTTCCT**ATGAA**GTTTTTTGTT
TGTTTTTTTTGCGTTGGGGGGTGTAAAGGAAAGCAGAATGTTTTATCATGATTTTTGCTTCAGCAACTTTGGGAC
AAATTAAAAGTCCTAAACTCTGGT

95 2720 23.9 (4.9) **14.5σ**

Harpia harpyja nucleolin (NCL), mRNA NCBI Reference Sequence: XM_052804401.1

GAGGGGGCGTGGCGCGGCGGAGGGCTAGGCAAGCGAGCGGAAGGGGCCCGCGCTCGCTCTTTCGTTTCAGTCCCC
GGTCCGGGTCGCCAGCGCCTCGCCGCCGCTCCCGCCGACCGCCCGGGGCCCGCTCCGCTCCTCGCCTCCGCCCCG
CCGGACGTGCCCACCCCTCTCCCGAGACAGCTCGGCCGCCGCCCCTGCGCCGCCAGGCACCGCCGCCATCATGGT
G**AAGAT**CGC**CAAGA**CTCC**CAAGA**ATCAGATCAAACAGAAAAAAATGGCTCCTCCCCCCAAAAAGGTCGAGGAAAG
CGAGGAAGAAGAGTCCTCTGAGCTAGAGGAAAGCAGCGGAGAAG**AGATGA**TCCCTCAGAAGAAACAGAAAGCAGC
AGTGACACCAGC**CAAGA**AGGCAGCTACTCCTGCAAAGAAGGCCGCTATTCCTGCAAAAAAGGCAATTACACCTGC
TAAGAAGACTGTGGCTACTCCAGCTAAAAAGGCTGTTGCTCCATCACCTAAAAAGGCTGCTGTCCTAACCAAAGG
AGCGAAAAATGGGAAGAATGC**CAAGA**AGGAAGAGAGTGAGGAGGAG**GATGAAGATGA**TGAGG**AAGATGA**GGAGGA
GG**AAGATGA**GGAGGAGGAGGAGGAAGAAGAGGAAG**AAGAT**TCT**GATGA**GGAAGAGGAACCAGCAATGCCTGTGAA
GCCTGCAGCCAAAAAGCCTGCAGCAGTACCAGCCAAAAAGCCTGCAGTTGTGCCAGCAAAG**CAAGA**ATCTGAAGA
GGAGGAG**GATGA**T**GATGA**GGAG**GATGA**TGAGGAAG**AAGATGATGAAT**CTG**AAGATGAA**GCCATGGACACAACCCC
TGTTCAGGTGAAGAAACCTACTCCAGTAAAGGCCACACCAGTGAAAGCCAAGGCAGACTCTG**AAGATGA**GG**AAGA**
TGAGGAG**GATGA**TGAGGAGGAG**GATGA**T**GATGAA**GAGGAGGAG**GATGAA**GAGGATGCCGAAGAGGAAAGTGAG**GA**
TGAAAAACCTG**TCAAG**GAAGCACCTGGAAAGAGGAAGAAAGAAATGGCCAACAAAAGTGCACCAGAGGC**CAAGA**A
AAAGAAAACTGACGGGCCCACTTCAGCTTTCTCCCTCTTTGTGGGAAATTTGGTCCCCACCAAGGAGT**ATGAA**GA
ACTGAAGACTGGCATCAAAGAATTCTTTGGGAAGAAGAATATCGAAGTTTT**AGATG**TCAGAATTGGTGCTTCCAA
GCGATTCGGCTATGTAGACTTTTCATCTGCTG**AAGAT**CTGGATAAAGCTCTCCAAC**TGAAT**GGAAAGAAGTTAAT

GGGTTTGGAAATCAAACTGGAAAAAGCAAAGAGCAAGGAAAC**GATGAA**AGAAAATAAGAAAGAGAG**AGATG**CTAG
AACATTGTTTGTGAAGAATCTGCCCTACCGCTTAACTG**AAGATGAA**ATGAGAGAGGTGTTTGAAAATGCACTAGA
AATCCGAATAGTA**ATGAA**CAAGGAGGGGAACAGCAAAGGGATGGCCTATAT**TGAAT**TTAAAACAGAAGCTGAGGC
AAACAAAGCTCTGGAGGAGAAGCAGGGCACAGAGATTGATGGTCGTGCCATGGTCATTGACTTCACTGGTGAGAA
GAGCCA**TCAAGA**ACATCAGAAAGGAGGTGGAGAGAGGGAGTCAAAGACCCTAATTGTCAACAACCTCTCATATGC
TGCTTCAGAAGAGACTCTC**CAAGA**ACTG**TTCAAGA**AAGCTTCTTCCA**TCAAGATG**CCACAGACCAACCAGGGCAG
GCCTAAAGGGTATGCGTTTGTAGAATTTCCCACAACTGAGGATGCCAAAGAGGCAT**TGAAT**TCCTGTAACAACAC
AGAGATTGAAGGCAGAGCAATCAGATTGGA**ATTCA**GTTCACCGGCATGGCAGAAAGGGAGC**ATGAA**CG**CAAGA**GG
AGGATTTAATCAACAAAGCAAAACGTTGTTTGTCAGAGGCCTTTCTGAGGACACCACAGAGGAGACGCTAAGAGA
ATCATTTGAAGGCTCTATAAGTGCTAGAATAGTCACAGACAGAGACACTGGATCATCTAAAGGGTTTGGGTTTGT
GGACTTCAGCTCCCCAG**AAGATG**CCAAAGCAGCTAAAGAAGCCATGGAGGATGGAGAGAT**AGATG**GAAACAAAGT
GATCCTTGATTTTGCCAAGCCAAAGGG**TGAAT**TTCAGCGTGGCGGTGGATTTGGTGGTCGTGGCGGCAGAGGAGG
AGGCCGAGGAGGAAGAGGTGGATTTGGTGGCAGAGGTGGTGGCAGAGGATTTGGAGGTAGAGGAGGTGGCTTCCG
AGGAGGCAGAGGAGGAGGTGGAGATCACAAGCCGCAAGGGAAG**AAGAT**AAAGTT**TGAAT**AAACTTCCCCTTTCCT
TTCCCTTCTCCTGCTCTCTGAGACTATCTGAAAGGACTCCGGGGGTTTTTATTCTCCTTTGATCTTGGCGGAGCC
TTCGGAGGACATTC**CAAGATG**CAAAGCAGTACTGTGAGCCACTTGG**AAGAT**ACAATTTTCAT**TTCAAG**GAAGAGA
GAGCAAGCCATTTTGACTGCTTGCCT**ATTCAAATGAA**CTTTTTAAAAAACGAGCGAT**AGATG**TGGGAATTTACCC
CTTGTCTGTGAGTTGTCT**TGAAT**TTATAATGTTTTACCCATGTACAAAAATATTTTTTTTTTCCTATAAACTTC
TGTAGCATTTTTGCTGTAAAAATGCAGAATGTTTTATCATTTGTGCTTCAGCACCCTGTCTTGGACAGATTAAAG
GACCTAAACTGGTTCGTGTTA

94 2717 23,88 (4,89) **14.3σ**

Elephas maximus indicus nucleolin (NCL), mRNA NCBI Reference Sequence: XM_049888444.1

TTTCCAGAGGCGATTACTGGGTAGGCTCCGTCTTTTGCCTCAGTCTCGAGCCCTAGCTGGCAGCGAAGCGTGCGC
GCTCCAGGCTCTTCAGCACTCGCGGCCGCCATCGACGTCGCTTGGGTTCTTCTAGGCTCATCTGCGCCACTCACT
CTCCACACACTCCGTCGTCACAAGCCGCCATCATGGTGAAGCTCGCGAAGGCCGGTAAAAA**TCAAG**GTGACCC**CA**
AGAAAATGGCTCCTCCCCCTAAGGAGGTAGAAG**AAGAT**AGTGAG**GATGA**GGAAATGTCAG**AAGATGAA**GAAGAAG
AAGAAGAAGACAGCAGTGGAGAAGAGGTCATCATTCCTCAGAAAAAAGG**CAAGA**AGAATCCCGCGGTACCGTC**CA**
AGAAGGTGGTGGTTTCCCCAACAAAAAAGGTGGTAGCTGCCCCACCGGC**CAAGA**AAGCAGCTGTCACCCCTGGCA
AAAAAGCAGCAGCCACGCCGGC**CAAGA**AGACAGTTACACCAGCCAAAGCAGTAGCGACACCTGG**CAAGA**AGGGAG
CCACCCCGGGCAAAGCAGCAGTGGCCACCCCTGGTAAGAAGGGAGCTGCCACTCCAGCCAAGGGGGCAAAGAATG
G**CAAGA**ATGC**CAAGA**AG**GATGA**GAGC**GATGATGA**GG**AAGATGATGAA**GACAGTGAGG**AAGATGATGA**G**GATGAA**G
AAGAATTTGAGCCAGCCAT**GATGAA**AGCAGCAGCGGTTGCCCCTGCCTCC**GATGATGA**G**GATGATGAAGATGA**GG
AGGAGGAGGAC**GATGA**GGAG**GATGATGATGA**GGAG**GATGAA**GACGACGACTCTGAAGAAGAGGCCATGGAGACTA
CACCAGCAAAAGGAAAGAAAGCTCCTACAAAAGGCGCTGTGAAAGC**CAAGA**GTGTGGCTGAGGACG**AAGATGAA**G
AG**GATGA**C**GATGA**CGAGGAGGAGGAG**GATGA**GGAAGAG**GATGATGATGAAGATGAA**GAGGAAGAGGAGGAG**GATG**
AGG**AAGATGAA**GAGGAGGAAGAACCTGTCAAAGAAGTACCTGGCAAACGAAAGAAGGAAATGTCCAAACAGAAAG
CTGCCCCTGAAGC**CAAGA**AACAGAAAGTGGAAGCCGTAGAACCAACTTCAGC**ATTCAA**TCTCTTTGTTGGAAACC
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TGGATGTCAGAATTGGTATGTCTAGGAAGTTCGGCTATGTGGATTT**TGAAT**CTGCTGAAGACCTGGAAAAAGCCT
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AAGATGCTATGGAGATCAGATTAGTCAGCAAAGACGGGAAGAGCAGAGGGTTTGCTTACAT**TGAAT**TTAAGACAG
AAGCTGATGCCGAGAAAACTTTTGAAGAAAAGCAGGGAACAGAGATCGAGGGGCGGTCAATATCGCTATACTACA
CTGGGGAGAAGGGTCAAAATCAGGACTACAGAGGTGGAAAGACTAGCACTTGGAGCGG**TGAAT**CCAAAACTCTGG
TCTTAAGCAACCTCTCCTACAACGCGACAGAAGAAACTCTTCAGGAAGTATTTGAGAAGGCAACAGCTA**TCAAG**G
TGCCCCAGAACCAAAACGGCAAATCTAAAGGGTATGCATTTATAGAATTTGCTTCATTTG**AAGATG**CTAAAGAAG
CTTTAAATTCTTGTAATAAAAGAGAAATCGAGGGCAGAGCAATCAGGTTGGAGTTGCAAGGATCCAGGGGATCAC
CTAATG**CAAGA**AGCCAGCCGTCCAAAACTCTGTTTGTCAAAGGTCTCTCTGAGGACACCACTGAGGAGACATTGA
AGGAGTCGTTTGACGGCTCTGTTCGTGCCAGGATAGTCACCGACCGGGAAACTGGCTCTTCCAAAGGGTTTGGTT
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AAGTTACCTTGGACTGGGCCAAGCCTAAGGGCGAAGGTGGCTTTGGGGGTCGAGGCGGAGGCAGGGGAGGATTTG
GAGGCCGGGGTGGCCACAGCAGAGGAGGCCGAGGTGGATTCGGCGGCAGAGGCCGGGGAGGCTTTGGAGGGCGAG

GAGGTTTCCGAGGCGGCAGAGGAGGAGGAGGAGACCACAAGCCACAAGGAAAGAAGACGAAGTTTGAGTAGTTCT
TCTGTCCCTCTGTTTTTCCTTTTCCATTTGAAAGAAAGGACTCTGGGGTTTTTACTCTGTTACCTGATCATGAC
AGAGCCTTCTGAGGACATTCCGAGACAGTAGACAGCCCTGTGGTCTACTGGGAAATCCGTACAGATAACAT**TTCA**
AGGG**AGATG**CCCTGTTGGTTTTGACTGGAT**ATTCA**TATAAACTTTTTAAAAG**AGATGA**GTGATAGAGCTAACCCT
TATCTGTAAGTTT**TGAAT**TTATATTAAGTTTCATCCCATGTACAAAACCGTTTTTTTCCTACAGATAGTTTTTTG
CGTTGGGGGGTGTAAAGGAAAGCAGAATGTTTTATCATGATTTTTGCTTCAGCGACTTTGGGACAAATTAAAAAG
TCCTAAACTCTG

93 2708 23,8 (4,87) **14.2σ**

Serinus canaria nucleolin (NCL), mRNA NCBI Reference Sequence: XM_050978052.1

TCCGCGCGTCCTCGCCGCTCCCGCCGTCCGCCCGCGGCCCGATCCCCCCGCGCCGCCGCCCCGCCGGACGCGCCC
GCCCCGCTCCTGACACAGCTCGGCCACCGCCCCTGCGCCGCCAGGCACCGCCGCCATCATGGTG**AAGAT**TAC**CAA**
GACCCCGAAGAATCAGATAAAACAGAAAAAAATGGCTCCTCCCCCGAAAAAGTTCGAGGAAAGTGAGGAAGAGGA
GTCCTCTGACCTAGAGGAGAGCAGCGGAGAAG**AGATGA**TCCCCCAGAAGAAACCACAAAAAGTTGCTGTTACCCC
AGC**CAAGA**AGGCTGCAACTCCTGCAAAAAAAATTGCTACTCCGGCGAAAAAGGCAGTTACACCTGCAAAGAAGGT
TGTGGCTACTCCACAGCCCAAAAAGGCTGTTGCTCCAACTCCTAAAAAGGTTGCTGTCCTAACCAAAGGAGCAAA
AAATGGAAAGAATGC**CAAGA**AGGAGGAAAGTGAAGAAG**AAGATGATGAAGATGATGA**CG**AAGATGATGA**GGAGGA
G**GATGA**G**GATGAA**G**AAGAT**TCT**GATGA**GGAAGAGGAACCCCCAATGCCTGTGAAACCTGCAGCCAAAAAGCCTGC
AGCAGTACCAGCCAAAAAGCCTGCAGCTGTGCCAGCAAAG**CAAGA**ATCTGAGGAGGAG**GATGA**G**GATGAA**GAG**GA**
TGAGGAGGAC**GATGAA**GAAGAG**GATGA**GTCTG**AAGATGAA**GCCATGGACACAGCCCCTGTTCCAGTGAAGAAAAC
CACTCCAGCCAAGGCTACACCAGTGAAAGCCAAGGCAGTAGAATCTG**AAGATGA**GG**AAGATGA**GGAGGAG**GATGA**
C**GATGA**G**GATGATGATGAA**GAGGAGGAG**GATGAA**GAGGATGCCGAGGAGGAAAGTG**AAGATGAA**AAACCTG**TCAA**
GGAAGCCCCTGGAAAGAGGAAGAAAGAAATGACCAATAAAAGTGCACCAGAGCC**CAAGA**AAAAGAAAAC**AGATG**G
GCCTGCATCAGCTTTCTCTGTATTTGTTGGAAATTTGGTCTGCAGCAAGGACTTTGAGGAGCTGAAGACTGGCCT
CCGAGAATTCTTTGGGAAGAAGAATATTGAAGTTGT**AGATG**TCAGAATCGGTGCTTCCAAGCGGTTCGGCTATGT
GGACTTCTCATCTGCTGAGGATCTGGATAAAGCTCTCC**AGATGAAT**GGAAAGAAGTTAATGGGTTTGGAAGTCAA
ACTGGAAAAAGCAAAGAGCAAGGAAGCT**ATGAA**AGAAGA**CAAGA**AAGAGAG**AGATG**CCAGAACACTGTTTTTGAA
GAACCTGCCCTACCGCATAACTGAGGATAACATCAGGGAGGTGTTTGAAAACGCATTGGAAGTCCGGATAGT**GAT**
GAACAAGGACGGGAGCAGCAAAGGGATGGCCTACAT**TGAAT**TTAAAACAGAAGCTGAGGCAAACAAAGCTCTGGA
GGAAAAGCAGGGCACAGAAATCGAGGGTCGTGCTGTGGTCATTGACTTCACTGGTGAGAAGAGCCAG**CAAGA**ACA
TCAGAAAGGTGAGTCGAAGACCCTGATTGTCAACAACCTTTCATATTCTGCTACAGAAGTGACTC**TTCAAGA**AGT
GTTTAAGAAAGCTTCTTCCA**TCAAG**GTGCCACAGAACAACCAGGGCAGGCCTAAAGGGTATGCATTTGTAGATTT
TGCCACAACTGAGGATGCCAGAGAGGCATTAAATTCCTATAACAACACAGAGATTGAAGGCAGAACAATCAGACT
GGA**ATTCA**GTGCGCAGAAAGGGAACACGAATGCACGAGGCGGTGGAGG**ATTCA**GTCAGCAAAGCAAAACATTGTT
TGTCAGAGGCCTTTCTGAGGACACCACAGAGGAGACATTAAGAGAATCGTTTGAAGGCTCAATAAGCG**CAAGA**AT
AGTCACAGACAGAGACACTGGATCATCTAAAGGGTTTGGGTTTGTGGATTTCAGCTCTGCAG**AAGATG**CCAAAGC
AGCTAAGGAAGCCATGG**AAGATG**GAGAGAT**AGATG**GAAACAAAGTGACCCTTGATTTTGCCAAGCCAAAGGGTGA
CTTCCAGCGTGGTGGTGGATTTGGTGGTCGTGGAGGCAGAGGAGGTGGCCGAGGAGGAAGAGGTGGATTTGGTGG
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TCACAAGCCGCAAGGGAAG**AAGAT****CAAG**TT**TGAAT**AAACTTCCCCTTTCCTTTCCCTTTTCCTGCTCTCCGAGAC
TATCTGAAAGGACTCCGGGGGTTTTTATTCTCCTTTGATCTTGGCGGAGCCTTCGGAGGACATTC**CAAGA**AGCGA
AGCAGTACTGTGAGCCACTTGG**AAGAT**AACATTTTCAT**TTCAAG**GAAGAGAGAGCAAGCCATTTTGACTGCTTGC
CTG**TTCAA**AGGAACTTTTTAAAACAAAGAGTGAT**AGATG**TGGGAATTTACCCCTTGTCTGTGAGTTGTCT**TGAAT**
TTATAATGTTTTACCCATGTACAAAAATTTTTTTTTTCCTATAAACTTCTGTAGCATTTTTGCTGTAAAAATGCA
GAATGTTTTATCATTTGTGCTTTAGCACCCTGTCTTGGACAGATTAAAGGACCTAAACTGGTTCGTGTTA

91 2616 23 (4,79) **14.2σ**

Prionailurus viverrinus nucleolin (LOC125173306) mRNA NCBI Reference Sequence: XM_047872263.1

ACTGGGCAGGCTCAGTCTTTCGCCTCAGTCTCGAGCTCTAGCTGGCAGCCAAGCATACGTGCTCCGGGATATTCT
GTACCAGCGGCCGCCATCGCCGTCGCTTGGGTTCCTCTGGACTCGTCTGCGCCACTCGCCCGCCACACACTCCGC
CGGCCTACGCCGCCATCATGGTGAAGCTCGCAAAAGCTGGTAAAAATCAAAGTGACCC**CAAGA**AAATGGCTCCTC
CCCCTAAGGAGGTAGAAGAAGACAGTG**AAGATGA**GGAAATGTCAG**AAGATGAAGATGA**TGATAGCAGTGGAGAAG

AGGTTATCATTCCTCAGAAAAAAGG**CAAGA**AGGCTGCCGCAACTCCAGCAAAGAAGGTGATGGTTTCCCCAACAA
AAAAGGTTGCAGTCGCCACACCAGC**CAAGA**AAGCAGTTGTCACCCCTGGCAAAAAGGCAGCAGCCACACCAGCCA
AAAAAACCGTTGCACCAGCCAAAGCAGTAGCAACACCTGG**CAAGA**AGGGAGCCACCCCGGGCAAGGCATTGGTAG
CAACTCCTGGTAAGAAAGGAGCAGCCACCCCAGCCAAGGGAGCAAAGAATGGGAAGAATGC**CAAGA**AGGAAGACA
GT**GATGA**GG**AAGATGA**CGAGGACAGTGACGAGGAG**GATGA**GGAAGAGGAG**GATGAA**GAGGAG**GATGAAT**TCGAGC
CGGCAGT**GATGAA**AGCCGCCGCTGCTGCCCCTGCCTC**AGATGA**TGAGGACGACGACGACGAGGAGG**AAGATGA**TG
AG**GATGA**GGAAGAG**GATGA**G**GATGA**G**GATGA**C**GATGA**CTCTGAAGAAGAAGCTATGGAGACCACACCAGCCAAAG
GAAAGAAAATCCCTGCAAAAGCCCTTCCTGTGAAGGC**CAAGA**GTGCAGCTG**AAGATGAAGATGA**GGAGGAG**GATG**
ATGAG**GATGAAGATGA**GGAG**GATGA**TGAGGAAGAGGAG**GATGA**T**GATGA**GGAAGAAGAGGAGGAGGAGGAGGAGG
AAGAAGAAGAAGAAGAAGAGCCTGTTAAAGAAGCACCTGGAAAGCGAAAGAAGGAAATGGCCAAACAGAAAGCGG
CTCCTGAAGC**CAAGA**AACAGAAAGTAGAAGGTACAGAACCAACTACATC**ATTCAA**TCTTTTTGTTGGAAACC**TGA**
ATTTCAGCAAATCTGCTCC**TGAAT**TAAAAACAGGCATTAGTGATATTTTTGCTAAAAATGATCTTGCTGTTGTGG
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AACTCACTGGTTTAAAAGTCTTTGGCA**ATGAA**ATTAAACTAGAAAAACCAAAGGGAAAAGACAGTAAGA**AAGAT**C
GAGACG**CAAGA**ACACTTTTGGCTAAAAATCTGCCTTACAAAGTTACTCAG**GATGAAT**TAAAAGAAGTATTTG**AAG**
ATGCTGTGGAAATCAGATTGGTCAGCAAGGATGGAAAGAGTAAAGGGATTGCTTATAT**TGAAT**TTAAGACAGAAG
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TAAGCAATCTCTCCTACAATGCAACAGAAGAAACTC**TTCAAGA**AGTATTTGAGAAGGCGACTTTTATTAAAGTGC
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GCCGAGGTGGTGGCAGAGGAGGCCGAGGTGGATTTGGTGGCAGAGGCCGGGGAGGCTTTGGAGGGCGAGGAGGCT
TCCGAGGAGGCAGAGGAGGAGGGGGAGACCACAAGCCACAAGGAAAGAAGACGAAGTT**TGAAT**AGTTTCTTCCAT
CCCTCTGTCTTTACCCTCTTCTGTTTGAAAGAAAAGGACTCTGGGGTTTTTACTCTGTTACCTGATCAATGACAG
AGCCTTCTGAGGACATTCCGAGACAGTATACAGTCCTGTGGTCTACTTGGAAGTTCGTATAGATAACAT**TTCAAG**
GGAGATACCCTGTTGGTTTTGACTGGAT**ATTCA**TATAAACTTTTTAAAG**AGATGA**GTGATAGAGCTAATCCTTAT
CTGTAAGTTT**TGAAT**TTATATTGTTTCTTCCCATGTACAAAACCATTTTTTTCCTACGAATAGTTTTGTTTTTGT
TTTTTTGCGTTGGGGGGGTGTAAAGGAAAGCAGAATGTTTTATCATGATTTTTGCTTCAGCAACTTTGGGACAAA
TTAAAAGTCCTAAACTCTG

92 2715 23,87 (4,88) **14σ**

Lynx rufus nucleolin (LOC124515288), mRNA NCBI Reference Sequence: XM_047084058.1

CTTTCGCCTCAGTCTCGAGCTCTAGCTGGCAGCCAAGCATACGTGCTCCGGGATATTCTGTACCAGCGGCCGCCATC
GCCGTTGCTTGGGTTCCTCTGGACTCGTCTGCGCCACTCGCCCGCCACACACTCCGCCGGCATACGCCGCCATCATG
GTGAAGCTCGCAAAAGCTGGTAAAAATCAAAGTGACCC**CAAGA**AAATGGCTCCTCCCCCTAAGGAGGTAGAAGAAGA
CAGTG**AAGATGA**GGAAATGTCAG**AAGATGAAGATGA**TGATAGCAGTGGAGAAGAGGTTATCATTCCTCAGAAAAAAG
G**CAAGA**AGGCTGCCGCAACTCCAGCAAAGAAGGTGATGGTTTCCCCAACAAAAAAGGTTGCAGTCGCCACACCAGC**C**
AAGAAAGCAGTTGCCACCCCTGGCAAAAAGGCAGCAGCCACACCAGCCAAAAAAGCCGTTGCACCAGCCAAAGCAGT
AGCAACACCTGG**CAAGA**AGGGAGCCACCCCGGGCAAGGCATTGGTAGCAACTCCTGGTAAGAAAGGAGCAGCCACCC
CAGCCAAGGGAGCAAAGAATGGGAAGAATGC**CAAGA**AGGAAGACAGT**GATGA**GG**AAGATGA**CGAGGACAGTGAAGAG
GAG**GATGA**GGAAGAGGAG**GATGAA**GAGGAG**GATGA**GTTCGAGCCGGCAGT**GATGAA**AGCCGCCGCTGCTGCCCCTGC
CTC**AGATGA**TGAGGACGACGACGACGAGGAGG**AAGATGA**TGAG**GATGA**GGAAGAG**GATGA**G**GATGA**G**GATGA**C**GATG**
ACTCTGAAGAAGAAGCTATGGAGACCACACCAGCCAAAGGAAAGAAAATCCCTGCAAAAGCCGTTCCTGTGAAGGC**C**
AAGAGTGCAGCTG**AAGATGAAGATGA**GGAGGAG**GATGA**TGAG**GATGAAGATGA**GGAG**GATGA**TGAGGAAGAGGAG**GA**
TGATGATGAGGAAGAAGAGGAGGAGGAGGAGGAAGAAGAAGAAGAAGAAGAAGAGCCTGTTAAAGAAGCACCTGGAA
AGCGAAAGAAGGAAATGGCCAAACAGAAAGCGGCTCCTGAAGC**CAAGA**AACAGAAAGTAGAAGGTACAGAACCAACT
ACATC**ATTCAA**TCTTTTTGTTGGAAACC**TGAAT**TTCAGCAAATCTGCTCC**TGAAT**TAAAAACAGGCATTAGTGACAT
TTTTGCTAAAAATGATCTTGCTGTTGTGGATGTCAGAATTGGTGTGTCTAGGAAGTTTGGCTATGTGGATTT**TGAAT**
CTGCTG**AAGAT**CTGGAAAAAGCTTTGGAACTCACTGGTTTAAAAGTCTTTGGCA**ATGAA**ATTAAACTAGAAAAACCA

AAGGGAAAAGACAGTAAGA**AAGAT**CGAGACG**CAAGA**ACACTTTTGGCTAAAAATCTGCCTTACAAAGTTACTCAG**GA**
TGAATTAAAAGAAGTATTTG**AAGATG**CTGTGGAAATCAGATTAGTCAGCAAGGATGGAAAGAGTAAAGGGATTGCTT
ATAT**TGAAT**TTAAGACAGAAGCTGATGCAGAAAAAACCTTGGAAGAAAAGCAGGGAACAGAGAT**AGATG**GGCGATCT
ATTTCCCTGTACTATACTGGAGAGAAGGGTCAAAA**TCAAGA**CTATAGAGGTGGAAAGAATAGCACTTGGAGTGG**TGA**
ATCAAAAACTCTGGTTTTAAGCAATCTCTCCTACAATGCAACAGAAGAAACTC**TTCAAGA**AGTATTTGAGAAGGCGA
CTTTTATTAAAGTGCCCCAGAACCAAAATGGCAAATCTAAAGGGTATGCATTTATAGAATTTGCTTCATTTG**AAGAT**
GCTAAAGAAGCTTTAAATTCCTGTAATAAAAGGGAAATTGAGGGCAGAGCAATCAGGCTGGAGTTGCAAGGACCCAG
GGGATCACCTAATG**CAAGA**AGCCAGCCGTCCAAAACCTTGTTTGTCAAAGGTCTGTCTGAGGATACCACAGAAGAAA
CATTAAAGGAATCATTCGACGGCTCTGTTCGGGCACGGATAGTCACTGACCGGGAGACTGGGTCCTCCAAAGGGTTT
GGTTTTGTAGAC**TTCAA**CAGTGAGG**AAGATG**CCAAAGCTGCCAAGGAGGCCATGG**AAGATG**GTGAAATTGATGGAAA
CAAAGTTACTTTGGACTGGGCCAAACCGAAGGGTGAAGGTGGCTTTGGAGGTCGCGGTGGAGGCAGAGGTGGCTTTG
GAGGCCGAGGTGGTGGCAGAGGAGGCCGAGGTGGATTTGGTGGCAGAGGCCGGGGAGGCTTTGGAGGGCGAGGAGGC
TTCCGAGGAGGCAGAGGAGGAGGGGGAGACCACAAGCCACAAGGAAAGAAGACGAAGTT**TGAAT**AGTTTCTTCCATC
CCTCTGTCTTTACCCTCTTCTGTTTGAAAGAAAAGGACTCTGGGGTTTTTACTCTGTTACCTGATCAATGACAGAGC
CTTCTGAGGACATTC**CAAGA**CAGTATACAGTCCTGTGGTCTACTTGGAAGTTCGTATAGATAACAT**TTCAAG**GGAGA
TACCCTGTTGGTTTTGACTGGAT**ATTCA**TATAAACTTTTTAAAG**AGATGA**GTGATAGAGCTAATCCTTATCTGTAAG
TTT**TGAAT**TTATATTGTTTCTTCCCATGTACAAAACCATTTTTTTCCTACGAATAGTTTTGTTTTTGTTTTTTTGCG
TTGGGGGGGTGTAAAGGAAAGCAGAATGTTTTATCATGATTTTTGCTTCAGCAACTTTGGGACAAATTAAAAGTCCT
AAACTCTG

91 2695 23,68 (4,86) **13.9σ**

Xenopus laevis nucleolin L homeolog (ncl.L), mRNA NCBI Reference Sequence: NM_001372137.1

TGTTGTCTGGTTCCATCGTAGAGACACG**TGAAT**AATCATCTCCCAAACGTAACACCGGCTACCATGGTGA
AACTAGCTAAGGGTGCAAAAAC**TCAAG**CAAAGCCC**CAAGA**AGGCAGCACCACCACCTCCAA**AAGAT**ATGGA
AGACAGTGAGGAAGAGGAGGACATGGAAG**AAGATGA**CAGCAGT**GATGA**GGAGGTGGAAGTACCTGTGAAG
AAGACACCAGCCAAAAAAACAGCCACTCCAGCCAAAGCAACACCTGGAAAAGCAGCCACACCAGGAAAGA
AGGGAGCAACTCCAGC**CAAGA**ATGGAAAGCAGGCTAAGAAA**CAAGA**GAGTGAAGAAGAGG**AAGATGA**CTC
T**GATGAA**GAGGCTGAGGACCAGAAACCTATTAAAAACAAACCAGTTGCTAAGAAAGCTGTAGCAAAAAAA
GAGGAATCTGAGG**AAGATGA**C**GATGATGAAGATGA**GTCTGAGGAGGAAAAGGCTGTTGC**CAAGA**AGCCTA
CACCTGCAAAGAAACCTGCAGGAAAAAAACAGGAATCTGAGGAGG**AAGATGATGAA**GAATCAG**AAGATGA**
GCCAATGGAGGTTGCACCAGCTCTAAAGGGGAAGAAAACTGCCCAAGCAGCGGAGG**AAGATGATGA**GGAG
GAGGAC**GATGA**C**GATGA**GGAAGAC**GATGATGATGA**GGAGGAACAGCAAGGCTCTGCAAAACGCAAAAAAG
AGATGCCAAAAACTATTCCTGAGGCAAAAAAAACAAAAACAGACACTGCATCAGAAGGCTTGTCAATCTT
TATTGGGAACTTAAACTCTACAAAGGAATTT**GATGAA**CTAA**AAGATG**CTCTGAGGGAGTTCTT**TTCAA**AG
AAGAACCTAACCATACAGGACATAAGGATTGGAAACTCAAAGAAGTTTGGGTATGTGGATTTCTCATCCG
AGGAAGAGGTTGAGAAGGCTCTGAAACTGACTGGGAAG**AAGAT**ACTTGGTACAGAGGTG**AAGAT**TGAAAA
GGCTATGGCTTTTGACAAAAACAAAACTGCTGAAAATAAGAAGGAGAGGGATTCCCGAACTCTGTTTGTG
AAGAACATCCCCTATAGCACAACTGTTGAGGAGCTGCAGGAGATATTTGAAAATGCTA**AAGAT**ATTAGAA
TTCCCACTGGCA**AAGATG**GATCAAATAAAGGGATTGCATATGT**TGAAT**TTAGCA**ATGAAGATGA**GGCAAA
CAAAGCTCTTGAAGAGAAGCAAGGAGCAGAGATTGAGGGACGCTCTATTTTCGTTGACTTCACTGGTGAA
AAGAGCCAGAATTCGGGAAATAAAAAAGGACCCGAAGGCGATTCCAAGGTACTTGTCGTAAACAACCTGT
CATATAGTGCAACAGAAGACAGCCTCCGTGAAGTCTTTGAAAAAGCCACATCTATACGGATACCACAGAA
CCAGGGACGGGCTAAGGGCTTTGCCTTTAT**TGAAT**TCTCTTCTGCGG**AAGATG**CAA**AAGATG**CAATGGAT
TCTTGTAACAACACAGAAATTGAGGGACGGTCCATACGGCTGGAGTTTAGCCAAGGAGGTGGCCC**TCAAG**
GTGGTGGAAGGGGAGGTTCAGCGCAGTCAAAAACCCTCTTTGTCAGAGGTCTTTCTGAAGACACCACTGA
AGAAACCTTGAAGGAAGCATTTGATGGCTCTGTTAATGCCAGGATTGTGACGGACAGAGATACTGGCGCA
TCCAAGGGGTTTGGATTTGTAGACTTTTCCACTGCTGAAGACGCTAAAGCTGCCAAAGAGGCCATGGAGG
ATGGGGAAATTGATGGAAACAAAGTTACTCTAGACTTTGCAAAACCTAAAGGCGACTCCCAGCGTGGAGG
ACGTGGGGGTTTTGGCAGAGGAGGTGGCTTTAGAGGTGGTCGTGGTGGCAGAGGAGGTGGAGGAGGAAGA
GGCTTTGGTGGCAGAGGTGGTGGACGCGGAAGAGGAGGATTTGGAGGAAGAGGAGGTGGAGG**ATTCA**GAG
GTGGTCAGGGCGGAGG**ATTCA**GAGGTGGTCAGGG**CAAGA****AGATGA**GGTTT**GATGA**CTGAGCAGTTTTCAT
CTCCCCTTTAAACC**TCAAG**CCATCTCCCTGAAAGGACTCTGGGGGCAGAAAGGGAGATCTGGATTCCCTA

CCCCAAATAAATCTACTCTTGGCAGAGCCTTCTGTGTGGA**CATTC**CAATGTGGAAATACATGTTTCCTGT
ATCACCTGGATTCCAAGTCATTTCATGGAAGAGGGGACTGCTTGACTGTCATATACAGACTTTTTTTAGA
GTGTGAAAAGAAACCCTGCTGGGACTTGGCAAATTCTTTATGTTTTACCCACTGTACAA**AAGAT**TGAGTT
TTTTTTTTCTTAATTCCTCTAGTATTTTGCTAAAAGTGCAGACTGTTCATGGTTTTGCTTCAGCAACGTG
TCTTG**TTCAA**ATTAAAGAACCTCCTCTGGTTACCTGTTTTTAGTA

75 2421 18.9 (4.3) **13σ**

Equus quagga nucleolin (LOC124228855), mRNA NCBI Reference Sequence: XM_046643806.1

CCCCAGTCTCGAGCTCTAGCTGGCAGCCAAACGTACGCGCTCCGGGATCTTCAGTACCTGCGGCCGCCATCGACG
TCGCTTAGGTGCTTCTGGGCTCATCTGCGCCACACGCTACGCTGTCCTAAGCCGCCATCATGGTGAAGCTCGCAA
AGGCTGGTAAAAATCAGGGTGACCC**CAAGA**AAATGGCTCCTCCCCCAAAGGAGGTAGAAGAAGAGAGTG**AAGATG**
AGGAAATGTCAG**AAGATGAAGATGA**TGAGAGCAGTGGAGAAGAGGTTGTCATCCCTCAGAAAAAGGG**CAAGA**AGG
CTACCACAACTCCAGCAAAGAAGGTGATGGTTTCCCCAACAAAAAAGGTTGCAGTTGCCACACCGGC**CAAGA**AAG
CAGTTGTCACTCCTGGCAAAAAGGCAGCAGCTCTGCAGGC**CAAGA**AGACAGTTACACCAGCCAAAGCAGTAGCAA
CCCCTGG**CAAGA**AGGGAGCCACACCAGGCAAAGCATTGGTGGCAACCCCTGGTAAGAAAGGAGCAGCCACCCCAG
CCAAGGGAGCAAAGAATGG**CAAGA**ATGC**CAAGA**AAGAAGACAGTG**ATGA**GG**AAGATGA**CGACGACAGTGAAGAG**G**
ATGAGGAGGACGACG**AAGATGAAGATGA**G**GATGAAT**TTGAGCCAGCCGT**GATGAA**AGCAGCAGCTGCTGCTGCCC
CTGCCTCG**GATGA**CGAG**GATGA**TGAGGAGGAGGAC**GATGA**CGAC**GATGAA**GACGACGACGAGGAAGAGGAGGAGG
AGGAGGAG**GATGAAGATGA**CTCTGAAGAAGAAGCTATGGAGACCACACCAGCTAAAGGAAAGAAAACTGCAAAGG
CTGTTCCTGTGAAGGC**CAAGA**GCACAGCTGAG**GATGAA**GACGACGACGAG**GATGAA**GACGACGAGGAG**GATGA**GG
AGG**AAGATGA**TGAG**GATGA**GGAC**GATGA**CGAAGAGG**AAGATGA**GGACGACGAGGAGGAGGAAGAGGAAGAGCCTG
TCAAAGAAGCACCTGGAAAACGAAAGAAGGAAATGGCCAAACAGAAAGCAGCTCCCGAAGC**CAAGA**AGCAGAAAG
TGGAAGCCACAGAACCAACTACATCT**TTCAA**TCTCTTTGTTGGAAACCTGAACTTCAGCAAATCTGCTCC**TGAAT**
TAAAAACGGGTATCAGTGACATTTTTGCTAAAAATGATCTTGCTGTTGTGGACGTCAGAATTGGTGTGTCTAGGA
AGTTTGGCTATGTGGATTTCGAATCTGCTGAAGACCTGGAAAAAGCCTTGGAACTCACCGGTTTAAAAGTCTTTG
GCA**ATGAA**ATTAAACTAGAAAAACCAAAGGGAAAAGACAGTAAGA**AAGAT**CGGGATGCCAGGACACTTTTGGCTA
AAAATCTGCCTTACAAAGTTACTCAG**GATGAAT**TAAAAGAAGTGTTTG**AAGATG**CTCTGGAGATCAGATTAGTCA
GCAAGGATGGAAAGAGTAAAGGGATTGCTTATAT**TGAAT**TTAAAACAGAAGCTGATGCAGAGAAAACCTTGGAAG
AAAAGCAGGGAACAGAGAT**AGATG**GACGATCTATTTCCCTGTACTATACTGGAGAGAAAGGTCAAAG**TCAAGA**CT
ACAGAGGTGGAAAGAATAGCACTTGGAGTGG**TGAAT**CAAAAACTCTGGTTTTAAGCAACCTCTCCTATAATGCAA
CTGAAGAAACTCTTCAGGAAGTATTTGAGAAGGCAACTTTTATCAAAGTGCCCCAGAACCAAAACGGCAAATCTA
AAGGGTATGCATTTATAGAATTTGCTTCATTTG**AAGATG**CTAAAGAAGCTTTAAATTCCTGTAATAAAAGGGAAA
TTGAGGGCAGAGCAATCAGGCTGGAGTTGCAAGGACCGAGGGGATCACCTAATG**CAAGA**AGCCAGCCATCCAAAA
CTCTGTTTGTCAAAGGGCTGTCTGAGGATACCACAGAAGAGACATTGAAGGAGTCGTTTGACGGCTCTATTCGTG
CAAGAATAGTCACTGACCGGGAGACCGGATCCTCCAAAGGGTTTGGTTTTGTAGAC**TTCAA**CAGTGAAGAAGACG
CCAAAGCCGCCAAGGAGGCTATGG**AAGATG**GTGAAATTGATGGAAACAAAGTTACTTTGGACTGGGCCAAGCCTA
AGGGCGAAGGTGGATTTGGGGGCCGTGGTGGAGGCAGAGGTGGCTTTGGAGGCCGAGGTGGTGGCAGAGGAGGCC
GAGGTGGATTCGGCGGCAGAGGCCGGGGAGGCTTTGGAGGGCGAGGAGGCTTCCGAGGAGGCAGAGGAGGAGGAG
GAGACCACAAGCCACAAGGAAAGAAGACGAAGTT**TGAAT**AGTTTCTTCTGTCCCTATGTCTTTCCCTCTTCATTG
AAAGAAAGGACTCTGGGGTTTTTACTCTGTTACCTGATCACTGACAGAGCCTTCTGAGGACATTC**CAAGA**CAGTA
TACAGTCCTGTGGTCTACTTGGAAAGCCGTATAGATAACAT**TTCAAG**GGAGATACCCTGTTGGTTTTGACTGGAT
ATTCGTATAAACTTTTTAAAG**AGATGA**GTGATAGAGCTAATCCTTATCTATAAGTTT**TGAAT**TTATATTGTTTCT
TCCCTTGTACAAAACCATTTTTTTCCTACAAATAGTTTTTTTTGTTTTTTTTTTGCGTTGGGGGGGTTGTAAAGG
AAAGCAGAATGTTTTATCATGATTTTTGCTTCAGCAACTTTGGGACAAATTAAAAGTCCTAAACTCTG

87 2689 23,63 (4,86) **13σ**

Manacus candei nucleolin (NCL), mRNA NCBI Reference Sequence: XM_051781646.1

CGTGTCAGTGCCCGGCCCGGCCGCCCGCGCGTCCCCGCCGCTCCCGCCGCGCCACCGGCACCGCTCCCGCCGCGC
CGCCGGCACCGCCCGCCCCGCGCTCTGCACAGCCCCGGCCGCCGTCCCTGCGCCGCCAGGCACTGCCGCCATCAT
GGTG**AAGAT**CGC**CAAGA**CCCCGAAGAACCAGATCAAACAGAAGAAAATGGCTCCTCCTCCGAAAAAGTTCGAGGA
GAGCGAGGAGGAAGAGTCCTCTGACCTAGACGAAAGCAGCGGAGAAG**AGATGA**TCCCTCAGAAGAAACCACAAAA
AGTAGCTGTTACCCCAGC**CAAGA**AGGTTGCTACACCTGCAAAGAAGGTTGCTACTCCTGCAAAAAAGGCAATTAC
ACCTGCAAAGAAGGCTGTGCCTACTCCACAGCCCAAAAAGGCTGTTGCTCCATCACCTAAAAAGGCAGCTGTCCT

AACCAAAGGAGCAAAAAACGGAAAGAATGC**CAAGA**AG**CAAGA**GAGCGAGGAGGAG**GATGA**CGACG**AAGATGATGA**
TGAAGATGAGGAGGAC**GATGA**GGAGGAG**GATGAA**GAGGAAG**AAGAT**TCT**GATGA**GGAGGAGGAACCACCAATGCC
TGTGAAGCCTGCAGCCAAAAAGCCTGCAGCAGTACCAGCCAAAAAGCCTGCAGTTGTGCCAGCAAAGCAGGAATC
TGAGGAGGAG**GATGAA**GAG**GATGATGA**GG**AAGATGATGAA**G**AAGATGATGA**GTCTG**AAGATGAA**GCCATGGACAC
AGCCCCTGTTCCAGTGAAGAAAACCACTCCAGCCAGGGCCACACCAGTGAAAGCCAAGGCAGACTCTG**AAGATGA**
GG**AAGATGATGATGA**GGAAGAC**GATGAA**GAG**GATGATGA**G**GATGATGAA**GAGGAGGATGCTGAGGAGGAAAGTGA
G**GATGAA**AAACCTG**TCAAG**GAAGCACCTGGAAAGAGGAAGAAAGAAATGGCCAATAAAAGTGCACCAGAGGC**CAA**
GAAGAAGAAAAC**AGATG**GACCTGTGTCAGCTTTCTCCCTCTTTGTGGGAAATTTGGTCTGCACCAAGGAGTTTGA
AGAGCTGAAGGCTGGCATCAGAGAATTCTTTGGGAAGAAGAATATTGAAGTTTT**AGATG**TCAGAATTGGTGCTTC
CAAGCGGTTTGGCTATGTGGACTTCTCATCTGCTG**AAGAT**CTGGATAAAGCTCTCCAA**ATGAAT**GGAAAGAAGTT
AATGGGTTCAGAAATCAAACTGGAAAAAGCAAAGAGCAAGGAAACT**ATGAA**AGAAAATAAGAAAGAGAG**AGATG**C
CAGAACACTGTTTTTGAAGAACCTGCCCTACCGTGTAACCGAG**GATGAA**A**TCAAG**GAGGTGTTTGAAAATGCAGT
AGAAGTCCGGATAGTACTGAACAAGGATGGAAGCAGCAGAGGGATGGCCTATGT**TGAAT**TTAAAACAGAAGCTGA
GGCAAACAAAGCTCTGGAGGAGAAGCAGGGCACGGAGATTGAGGGTCGTGCTGTGATCATTGACTTCACTGGTGA
GAAGAGCCAGCAGGAACATCAGAAAGGAGGTGGAGAGAGGGAGTCAAAGACCCTAGTTGTCAACAACCTCTCGTA
CGCCGCTACGGAAGAGACACTCACTGTT**TAAGA**AAGCTTCTTCCA**TCAAG**CTGCCACAGAACAACCAGGGCAGGT
CTAAAGGATATGCGTTCGTAGATTTTCCCACAGCTGAGGATGCCAGGGAGGCAT**TGAAT**TCCTATAACAACACAG
AGGTTGAAGGCAGAACAATCAGACTGGAGTTCAGTGCACCATCATGGCAGAAAGGGAACACGAACGCACGAGGAG
G**ATTCA**GTCAGCAAAGCAAAACATTGTTTGTCAGAGGCCTTTCTGAGGACACCACGGAAGAGACGC**TAAGA**GAAT
CATTTGAAGGCTCTATAAGTG**CAAGA**ATAGTCACAGACAGAGACACTGGATCATCTAAAGGGTTTGGATTTGTGG
ACTTCAGCTCTGCAG**AAGATG**CCAAAGCAGCTAAAGAAGCCATGGAAGACGGGGAGAT**AGATG**GCAACAAAGTGA
TCCTTGATTTTGCCAAGCCAAAGGGTGACTTCCAGCGTGGCGGCGGATTTGGTGGTCGTGGCGGCAGAGGAGGCG
GCCGAGGAGGAAGAGGTGGATTTGGTGGCAGAGGTGGTGGCAGAGGTGGATTTGGAGGTAGAGGTGGCTTCCGAG
GAGGCAGAGGAGGAGGTGGAGATCACAAGCCACAAGGAAAA**AAGAT**AAAGTT**TGAAT**AAACTTCCCCTTTCCTTC
CCCTTCTTCTGCTCTCCGAGACTATCTGAAAGGACTCCGGGGGTTTTTATTCTCCTTTGATCTTGGCGGAGCCTT
CGGAGGACATTC**CAAGA**AGCGAAGCAGTACTGTGAGCCACTTGGAAAATACTAATTTTCAT**TTCAAG**GAAGCGAG
AGCAAGCCATTTTGACTGCTTGCCTG**TTCAA**AGGAACTTTTTAAAAAAAAAACACAAGTGAT**AGATG**TGGGAATT
TACCCCTTGTCTGTGAGTTGTCT**TGAAT**TTATAATGTTTTACCATGTACAAATTTTTTTTTCCTATAAACTTCT
GTAGCATTTTTGCTGTAAAAATGCAGAATGTTTTATCATTTGTGCTTCAGCACCCTGTCTTGGACAGATTAAAGG
ACCTAAACTGGTTCGTGTTACTTCTGTGCCACTAA**ATGAA**GCCAGGCTGGGAGAAAGAGGCTGTCTATAGCCTTC
CCTCTCTTGTATTAAGGTCATTAGTGTCACAGCAGCAGCTTCTGTCCTGCTTTGCTTGAGCTTGTGTCAGCTCCC
AGCTCTGTGTGTGTGCTGTGTTAGAGTGCTTGCAGGAAGGAGGGCAGAAGAATATGATTGCCAAGGTAAGCTCTG
TGACCACAACCATGTTTTTATTTTATTTTTTTAACTA**AAGATG**CTGTGATGGTG

89 2906 25,54 (5,05) **12.6σ**

Table S3. Examples of P-pentamer content in nucleophosmine (NPM1) of 15 species (8 among them from Table S4). Red color represents P-pentamers, blue color corresponds to overlaps.

Homo sapiens nucleophosmin 1 (NPM1), transcript variant 7, mRNA NCBI Reference Sequence: NM_001355006.1
GGGCGATGTCCTTGCTAATTTGGAGACTG**ATTCA**GTCCCCTTTTGGCCCCCAAGTTACGTA**AAGAT**AAGG
ACTTTGG**AGATG**TTTTCTCAGGAAGGACAGAGCTGAAAAACAAAGTTCCTGCGTGCCGCCACCCGATGG**A**
AGATTCGATGGACATGGACATGAGCCCCCTGAGGCCCCAGAACTATCTTTTCGGTTGTGAACTAAAGGCC
GACA**AAGAT**TATCACTTTAAGGTGGATAAT**GATGAA**AATGAGCACCAGTTATCTTTAAGAACGGTCAGTT
TAGGGGCTGGTGCAAAG**GATGA**GTTGCACATTGTTGAAGCAGAGGCA**ATGAAT**TACGAAGGCAGTCCAAT
TAAAGTAACACTGGCAACTTTGAAAATGTCTGTACAGCCAACGGTTTCCCTTGGGGGCTTTGAAATAACA
CCACCAGTGGTCTTAAGGTTGAAGTGTGGTTCAGGGCCAGTGCATATTAGTGGACAGCACTTAGTAGCTG
TGGAGG**AAGATG**CAGAGTCAG**AAGATGAA**GAGGAGGAGGATGTGAAACTCTTAAGTATATCTGGAAAGCG
GT**CTGCC**CCTGGAGG**TGGTA**GCAAGGTTCCACAGAAAAAAGTAAAACTTGCTGCT**GATGAAGATGA**TGAC
GATGATGATGAAGAG**GATGATGATGAAGATGATGATGATGATGA**TTTT**GATGA**TGAGGAAGCTGAAGAAA
AAGCGCCAGTGAAGAAATCTATACGAGATACTCCAGCCAAAAATGCACAAAAGTCAAATC**AGAATGG**AAA
AGACTCAAAACCATCATCAACAC**CAAGAT**CAAAAGGA**CAAGA**ATCC**TTCAAGA**AACAGGAAAAAACTCCT
AAAACACCAAAAGGACCTAGTTCTGTAGAAGACATTAAAGCAAAAATGCAAGCAAGTATAGAAAAAGGTG
GTTCTCTTCCCAAAGTGGAAGCCAAA**ATTCA**TCAATTATGTGAAGAATTGCTTCCG**GATGA**CTGAC**CAAGA**
GGCT**ATTCAAGAT**CTCTGGCAGTGGAGGAAGTCTCTTTAAGAAAATAGTTTAAACAATTTGTTAAAAAAT
TTTCCGTCTTATTTCATTTCTGTAACAGTTGATATCTGGCTGTCCTTTTTATAATGCAGAGTGAGAACTT

TCCCTACCGTGTTTGATAAATGTTGTCCAGGTTCTATTGCCAAGAATGTGTTGTCCAAAATGCCTGTTTA
GTTTTTAAAGATGGAACTCCACCCTTTGCTTGGTTTTAAGTATGTATGGAATGTTATGATAGGACATAGT
AGTAGCGGTGGTCAGACATGGAAATGGTGGGGAGACAAAAATATACATGTGAAATAAAACTCAGTATTTT
AATAAAGTA

56 1265 11.12 (2.23) **20.1σ**

Monodelphis domestica chromosome 1, MonDom5, whole genome shotgun sequence NCBI Reference Sequence: NC_008801.1: 370685271-370685328,370686664-370686743,370687211-370687330,370688825-370688918,370689214-370689320,370689406-370689467,370690271-370690331,370690654-370690737,370691499-370691600,370693874-370693948,370695025-370695063 NPM1

ATGGAGGACTCCATGGAAATGGATATGAGCCCCCTCCGGCCCCAGAATTTCCTTTTCGGTTGTGAACTAA
AGGCTGACAAAGATTATCATTTTAAGGTAGATAATGATGAAAATGAGCACCAGTTGTCATTGAGGACTGT
GAGTCTAGGGGCTGGTGCAAAGGATGAATTGCATATTGTTGAAGCAGAGGCACTGAACTATGAAGGAAAT
CCAATTAAAGTAACATTGGCATCTTTGAAAATGTCTGTTCAGCCTACTGTTTCTCTAGGTGGCTTTGAGA
TTACACCACCAGTAGTTTTGCGGTTAAAATGTGGTTCAGGGCCTGTACATGTGAGTGGCCAGCACTTAGT
GGCTCTGGAGGAAGATGCAGAATCAGATGATGAAGAGGAAGATGATATGAAACTCCTAAACATGTCTGGC
AAAAGATCTGCTCCTGGAGTTGGTAGCAAGGTTCCACAGAAAAAGGTAAAACTGTCTGAAGAAGATGAAG
AAGATGATGAAGAAGACGATGATGATGAAGATGACGATGATGATGACTTTGAAGATGAGGAAAGTGAAGA
AAAGACCCCTCCAGTGAAGAAATCTGTTCGTGATACTGCAGCAAAAAAATGCACAAAAATCAAACCAGAAT
GGAAAAGATTCAAAGCCGTCCACACCAAAAGCAAAGGGTCAAGATTCCTTCAAAAAGCAGGATAAGACTC
CCAAGACTCCCAAAGGACCCACTTCTCTAGAGGATATTAAAGCAAAAATGCAGGCAAGCATTGAAAAGGG
TGGTTCCCTCCCAAAAGTGGAAGGCAAATTCATCAACTATGTAAAGAATTGCTTCCGGATGTCTGATCAG
GAGGCTATTCAAGATCTCTGGCTGTGGAGGAAATCTCTTTAA

53 878 7.7 (2.77) **16.4σ**

Rattus norvegicus nucleophosmin 1 (Npm1), mRNA NCBI Reference Sequence: NM_012992.4

GGCGTGATTCCGTCCTGCGTGTCTGTTCTGCGGAACAGTAGGCAGTTGTTTTCCGTCCGGCTTCTCTCAC
ACTCAAGTGCGCGCCTCCACCTCATGGAAGACTCGATGGACATGGACATGAGCCCTCTTAGGCCTCAGAA
CTACCTTTTCGGTTGTGAACTAAAGGCTGACAAAGATTATCACTTTAAAGTGGATAATGATGAAAATGAG
CACCAGTTATCATTAAGAACGGTCAGTTTAGGAGCAGGGGCAAAAGATGAGTTGCACATCGTAGAGGCAG
AAGCAATGAACTATGAAGGCAGCCCAATTAAAGTAACACTGGCAACTTTGAAAATGTCTGTACAACCAAC
AGTTTCCCTTGGGGGCTTCGAAATTACACCACCTGTGGTCTTGAGGTTGAAGTGTGGTTCTGGGCCTGTG
CACATAAGTGGACAGCACCTAGTAGCTGTAGAGGAAGATGCAGAGTCAGAAGATGAAGATGAGGAAGATG
TAAAACTCTTAGGCATGTCTGGAAAGAGATCTGCTCCCGGAGGTGGTAACAAAGTCCCACAGAAAAAAGT
AAAACTTGATGAAGATGATGATGAGGATGATGAAGATGATGAGGATGATGAAGATGATGATGATGATGAT
TTTGATGAAGAGGAAACTGAAGAAAAGGTTCCAGTGAAGAAATCTGTACGAGATACCCCAGCCAAAAATG
CACAAAAATCAAACCAAAATGGGAAAGATTTAAAACCATCAACACCAAGGTCAAAGGGTCAAGAGTCCTT
CAAAAAACAGGAAAAAACTCCCAAAACACCCAAAGGACCTAGCTCTGTAGAAGACATTAAGGCAAAAATG
CAAGCAAGTATAGAAAAAGGTGGTTCTCTTCCCAAAGTGGAAGCCAAGTTCATTAATTATGTGAAGAATT
GTTTCCGGATGACTGACCAGGAGGCTATTCAAGATCTCTGGCAGTGGAGGAAGTCTCTTTAAGAAAATGG
TTTAAACAGTTTGAAATAATTCTGTCTTCATTTCTGTAATAGTTGCTATCTGGCTGTCCTTTTTATAATG
CAAAGTGAGAACTTTCCCTACTGTGTTTGATAAATGTTGTCCAGGTTCAATTGCCAAGAATGTGTTGTCT
AAAATGCCTGTTTAGTTTTCAAGGATGGAACTCCGCCCTTTACTTGGTTTTAAGTATGTATGGAATGTTA
TGATAGGACATAGTAGTAGTGGTGGTCAGATGTGGAAATGGTAGGGAGACAAATATACATGTGAAATAAA
CTCAGTATTTTAATAAAGTAA

63 1277 11.22 (3.35) **15.5σ**

Mytilus coruscus (NPM1) strain wild genome assembly, contig: Mco4455, whole genome shotgun sequence GenBank: CACVKT020004326.1: 1333240-1333270,1339978-1340075,1344856-1344978,1348482-1348578,1355357-1355508,1356028-1356072,1356980-1357071,1357859-1357886,1374471-1374521,1383748-1383807

ATGAATGAACCTGCAAGAGAGTACTTTTGGGGAATAACATTAGACAAAGAAAATCCAACATTTACATGGA
CATTTGAAGAGGAGGAAGAAGATACAGATTATTTGGTACACACCTTGTTTCTTAAGCAGGCAGTTTTAGG
AGCATCTGCAGTAAAAGATGAAAGAAATCTTGTACAAATAGAAACAAAGAATTTTGATCAAAAAGAATTG
AAACAACCATTATTATCATTAACATTGGGAAAAAAATGATATGACAAGTTTAGATGTGAGTTTTGGTCATG
AAGTAGCTGTAGTGTTTAGACTTGTGGAGGGTAGTGGACCAGTTTGTTTATCAGCTCAGCAGTTAGTAGA
ATATCCAGATGATAGAAACATGTCACAAGATGAATCAGAATTAGAATGCACAGAAGAGGAAGAAGAGGAG
GAAGAGGAAGAAGAATCACCAAAGAAAGCTGAAGTCACAAAAAAGAGAAAAGCATCATCACAAAAATCTG
GCAAAAACAAGAAAAAAAGGGAAGATGGAAGTGAGCCAAGATGATTCAGAAGATGAGGATGAGGATGAAGA
AGATATGGATGAAGAGGATGAAGATGAAAGTATGGATGATGATGAGGATGAAGAAGAAATGAGTAGTCCA
GAAAAAAGTGATAAAAAGAAAGGGAAGAATGCCAAAGAAGCTAAGAAAGATGATGGAAAGGCAAAGAAAG
GTGGAAAGATGGCCAAGGTCTCTCCAAAGAAAGATGCAAATTCCAAGAAAGCAAAGAAAACCGCTAAAGC

CAAGTAG

57 773 6.8 (2.6) **15.4σ**

Bos taurus nucleophosmin (NPM1) gene, NPM1-GG allele, exon 1 and partial cds GenBank: GQ144334.1
GCTTCTCTCCCACATAAGTGCGTGCAGCCAACCCATGGAGG**ATTCAA**TGGACATGGACATGAGCCCCTTG
AGGCCCCAGAACTATCTTTTCGGTTGTGAACTAAAGGCTGACAGAGATTATCAC**TTCAAG**GTGGATAAT**G**
ATGAAAATGAGCACCAGTTATGTTTAAGAACGGTCAGTTTAGGGGCTGGAGCAAAG**GATGA**GTTACATGT
TGTTGAAGCAGAGGC**GATGAAT**T**ATGAA**GGCAGTCCAATTAAAGTAACACTGGCAACTTTGAAAATGTCT
GTACAGCCAACGGTTTCTCTTGGGGGCTTTGAAATTACACCACCTGTGGTCTTACGGTTGAAGTGTGGTT
CAGGGCCTGTGCATATCAGTGGACAGCACTTAGTAGCCGTGGAGG**AAGATG**CAGAGTCAGAAGAGGAGGA
GGAGGAGGAGGTGAAACTCCTGAGTATATCTGGAAAGCGTTCTGCCCCTGGAAG**TGGTA**GCAAGGTTCCC
CAGAAAAAAGTGAAGCTTGCTGCT**GATGAAGATGAAGATGATGATGA**C**GATGA**C**GATGATGATGATGATG**
AAGATGATGATGATGACGATTTT**GATGA**GGAAG

39 589 5.2 (2.3) **14.7σ**

Mus musculus (NPM1) full open reading frame cDNA clone RZPDo836E0452D for Nucleophosmin 1, GenBank: CT010327.1
ATGGGTGACTGGAGCGCCTTGGGGAAGCTGCTGGACAAGGTCCAAGCCTACTCCACGGCCGGAGGGAAGG
TGTGGCTGTCGGTGCTCTTCATTTTCAGAATCCTGCTCCTGGGGACAGCGGTTGAGTCAGCTTGGGGT**GA**
TGAACAGTCTGCCTTTCGCTGTAACACTCAACAACCCGGTTGTGAAAATGTCTGCTATGACAAGTCCTTC
CCCATCTCTCACGTGCGCTTCTGGGTCCTTCAGATCATATTCGTGTCTGTGCCCACACTCCT**GTACT**TGG
CTCACGTGTTCTATGT**GATGA**GAAAGGAAGAGAAGCTGAA**CAAGA**AAGAAGAGGAGCTCAAAGTGGCGCA
GACCGACGGGGTCAACGTGG**AGATG**CACCTGAAGCAGATTGAAA**TCAAGA**AG**TTCAAG**TATGGGATTGAA
GAACACGGCAAGGTG**AAGATGA**GAGGTGGCCTGCTGAGAACCTACATCATCAGCATCCTC**TTCAAG**TCTG
TCTTCGAGGTGGCCTTCCTGCTGATCCAGTGGTACATCTATGGGTTCAGCCTGAGTGCGGTCTACACCTG
CAAGAGAGATCCCTGCCCCCACCAGGTGGACTGCTTCCTCTCACGTCCCACGGAGAAAACCATCTTCATC
ATCTTCATGCTGGTGGTGTCCTTGGTGTCTCTCGCTC**TGAAT**ATCATTGAGCTCTTCTATGTCTTC**TTCA**
AGGGCGTTAAGGATCGCGTGAAGGGAAGAAGCGATCCTTACCACGCCACCACCGGCCCACTGAGCCCATC
CAAAGACTGCGGATCTCCAAAATATGCTTAC**TTCAATGG**CTGCTCCTCACCAACGGCCCCACTCTCACCT
ATGTCTCCTCCTGGGTACAAGCTGGTCACTGGTGACAGAAACAATTCCTCCTGCCGCAATTACAACAAGC
AAGCCAGCGAGCAAAACTGGGCGAATTACAGCGCAGAGCAAAATC**GAATGG**GGCAGGCCGGAAGCACCAT
CTCCAACTCCCACGCCCAGCCGTTTGATTTCCCTGACGACAGCCAAAATGCCAAAAAAGTTGCTGCTGGA
CACGAACTCCAGCCCTTAGCTATCGTGGATCAGCGACCTTCCAGCAGAGCCAGCAGCCGCGCCAGCAGCA
GACCTCGGCCT**GATGA**CCTGGAGATTTAG

37 589 5.18 (2.275) **14σ**

Xenopus tropicalis nucleophosmin (nucleolar phosphoprotein B23, numatrin) (npm1), mRNA NCBI Reference Sequence: NM_203552.1
GTCCGTGCCGCTGTAGAGTAGAGGG**GGTAC**ATC**TGAATTGAAT**TGGAACAA**AATGG**AAGACTCCATGGAT
ATGGATAGCATTGCTCCCCTGCGCCCTCAGAATTTTCTCTTTGGATGTGAACTTAAAGCAGACAAAAGAG
AAT**ATTCA**TTTAAAGTTG**AAGATGATGAA**AATGAGCACCAATTGTCATTGAGAACGGTTAGTGTGGGTGC
ATCTGCTA**AAGATGA**GCTGCATGTTGTTGAGGCTGAAGGAATAAATT**ATGAA**GGGAAAA**CCATT**AAAATT
ACACTTGCCTCATTGAA**GCCAT**CTGTGCAACCAACGGTTTCTCTAGGGGGATTTGAGATAACACCACCAG
TAATCTTGCGGTTGAAATCTGGGTCAGGGCCAGTATATGTCAGTGGGCAGCATCTTGTGGCTTTAG**AAGA**
TCT**TGAAT**CCAC**AGATGATGAAGATGA**GGAACATGATGTGCCCAGTCCAAAAAATGCAAAAAGGACGGCA
TC**AGATG**CTGCATCAAAGGTTCCTCGGAAAAAAACACGTCTGGAGGAAGAGGACGAGGCTG**ATTCA**GACG
AG**GATGATGATGATGATGA**C**GATGATGA**GGAGGAGGACGACG**AAGATGA**G**GATGAA**GAG**GATGAA**ACACC
TGTTAAAAAGACTGACTTGCCTACAAAACCAAAGGCAGCTCAAAAGTTAAATCAC**AATGG**GAAGGCTTC**T**
GAATTACCCACACCACTAAAGACTCCAAAAACTCCAGAGCAGAAAGGAAAGCAGGATACAAAGCCTCAAA
CACCAAAGACACCAAAAACGCCTTTGTCTTTT**GATGAA**ATAAAAGCA**AAGATG**CAAACTTCATTAGAAAA
GGGCACTGTTCTTCCTAAAGTGGAAGTAAAGTTTGCAAACTATGTGAAGAATTGCTTTAGGACAGAAAAT
CAGAAGGTA**ATTCAAGAT**CTT**TTCAAATGG**AGACAGTCCCTGAAAGACTCAAAATAAA**CCTGCC**TCTTGT
TATCAAA

47 983 8.64 (2.9) **13.1σ**

Lipotes vexillifer nucleophosmin-like (LOC103076865), misc_RNA NCBI Reference Sequence: XR_456924.1
GTGATTCCGTCCTGTGCACCTGTTCCCTGGAGCAGTAGTCTTTTTTCTCCGTCCGCCTTCTCTCCCACCT
AAGTATGTGCCACCAACCCATGG**AAGAT**TCGATGGACATGGACATGAGCCCCCTGAGGCCCCAGAACTAT
CTTTTCTGTTGTGAACTAAAGGCCGACA**AAGAT**TATCACTTTAAGGTGGATAAT**GATGAAAATGG**GCACC

ACCCCGGGCACCAGTTATCTTTAAGAACGGTCAGTTTAGGGGCTGGCACAAAG**GATGAA**CTGCACATTGT
CGAAGCAGAGGC**GATGAAT**T**ATGAA**GGCAGTCCAATCAAAGTAACACTGGCAACTTTGAAAATGTCTGTG
CAGCCAACGGATTTCCTTGGGGGCTTTGAAACAACACCACCTGTGGTCTG**ATGGT**TGAAGTGTGGTTCAG
GGCCTGTGCATATTAGTGGACAGCACTTAGTAGCTGTGGAGG**AAGATG**CAGAGTCAGAAGACAAAGAGGA
GGAGGGTGTGACACTCCTAAGTATGTCTGGAAAG**CATTCTGCC**CCTGGAAGCGGTAGCAAGCTTCCACAG
AAAAAAGTAAAACTTGCTGCT**GATGAAGATGAAGATGATGATGAAGATGA**CA**ATGAAGATGATGA**CTCT**G
ATGATGA**GGAAGCTGAAGAAAAAGCTCCAGTAAAGAAATCTCCATCAACACC**AAGAT**CAAAAGG**TCAAGA**
ATCC**TTCAA**AAAACAGGAAAAAACTCCTAGAACACCGAAAGGACCTAGCTCTTAGAAGACATTAAAGCAA
AAATGCAAGCAAGTATAGAAAAAGGTGGTTCCCTTCCCAAAGTGGAAGCCAA**ATTCA**TCAATTATGTGAA
GAACTGTTTCCG**GATGA**CTGACCAGGAGGCT**ATTCAAGAT**CTCTGGCAGTGGAGGAAGTCTCTTTAA

44 903 7.9 (2.8) **12.9σ**

Bauhinia variegate (NPM1) isolate BV-YZ2020 chromosome 9, whole genome shotgun sequence GenBank: JAKRYI020000009.1:

ATGGAGTTCTGGGGTATTGAGGTTAAGAGTGGGGAGACTGTGAAAGTCGATCCTGAGGAATTTGATGCTT
ACGTACATCTTTCACAGGCTGCTCTGGGGGAGTCGAAGA**AAGAT**AGTGGAAGTGAGAAGGTGGTTCTTCA
TTTGAAAGTTGGTGACCAGAAGCTTGTTTTGGGAACACTTTCTAGGGAAAATTTTCCTCAGCTGTCTTTT
GATATCGTCCTTGATAAGGAATTTGAGCTCTCTCATAATTGGAAAAATGGGAGTGTCTACTTCTGTGGAT
ACAAAGCTGAAGTGCC**AGATGA**GGAG**GATGA**CTTC**GATGATGA**GAGT**GATGATGA**CGAGGATCTGCCAAT
GATCTCCCTAGACAATGGAAAACTTGACACAAAGACTGAAGTTGGGGATGGTAAACTTAAAAAATCTGCT
GCCAAGGGTCCTTCAG**TGAATCAAGTCAAG**GTTGCTG**ATTCAA**AGA**AAGATGAA**GAGGAAGACTCAG**AAG
ATGATGA**TTCT**GATGATGATGA**TTCTGACGAAG**AAGATGA**TGGTGGAAGTTCTGAAGAGGA**CAAGATG**GA
TGCTGATAGTGATAGT**GATGAAGATGATGAA**GAGACACCTAAGAAGGCATACCAGGG**CAAGA**AAAGACCC
AATGATTCTGCAACAAAAACTCCTATCTCTTC**CAAGA**AAGCTAAAGCTGCTACTCCACAAAAGACTGATG
GTAAGAAAGGTGGTCATACAGACACTCCTCACCCTAAGAAGGACATAAAGACTCCGAACAGTGACTCTAA
ATCTGGTGGAAAATTCTCCTGCAAGTCCTGCAGCAAGTCT**TTCAA**CTCTGATGCTGGCCTGCAGCAAC**AT
TCA**AAGGCTAAGCATGCTTGA

41 857 7.5 (2.7) **12.2σ**

Ictidomys tridecemlineatus (NPM1) isolate GS200 Itri18, whole genome shotgun sequence GenBank: JAESOR010000030.1: c12799998-12799927, c12799902-12799338, c12799288-12799122

ATGG**AAGAT**TTGTTGGATATGGACATGAGCCCCCTGAGGCCCCAGAACTACCTTTTCGGTTGTGAGCTAA
AAGTGGATAAT**GATGAA**AATGAGCACCAGTTATCA**TCAAGA**ACGGTCAGTTTAGGGGCTGGTGCAAAG**GA
TGAAT**TGCACATTGTCGAAGCAGAGGCA**ATGAAT**TATAAAGGCAGTCCAATCAAAGTAACACTGGCAACA
TTGAAAATGTCAGTACAGCCAACGGTTTCCCTTGGGGGCTTTGATATCACACCACCTGTGGTCTTAAGGT
TGAAGTGTGGTTCAGGGCTTGTGCATATTAGTGGACAGCACTTAGTAGCTGTGGAGA**AAGATG**CAGAGTC
AG**AAGATGA**GGAGGAGGAGGATGTGAAACTCTTAAGTGTATCTGGAAAGCGAT**CTGCC**CCTGGAGG**TGGT
A**GCAAGGTTCCCCAGAAAAAAGTAAAACTTGCTGCT**GATGAAGATG**TCCAT**GATGAA**G**AAGATGATGATG
ATGATGAAGATGATGATGA**TTTT**GATGATGA**GGAAAGTGAAGAAAAAGCTCCAGTGAAGAAATCTATACG
AGATATTCCAGCCAAAAATGCACAAAAATCGAACCA**GAATGG**AAAAGACTCAAAACCAACAACAC**CAAGA
T**CAAAAGGACCTAGTTCTGTCGAAGACATTAAAGCAAAAATGCAAGCAAGTATAGAAGAAGGTGATTCTC
TTCCCAAAGTGGAAGCCAAGTTCGTCAATTATGTGAAGAATTGCTTCCG**GATGA**CTGACCAGGAGGCT**AT
TCAAGAT**CTCTGGCATTGGAGGAAGTCTCTTTAA

39 800 7 (2.65) **12.1σ**

Pan troglodytes nucleophosmin 1 (NPM1), transcript variant X5, mRNA NCBI Reference Sequence: XM_054684087.1

GCGGGGAGCCTGCGTCCTTTCCCTGGTGTGATTCCGTCCTGCGCGGCTGTTTTCTGGAGCAGCGTTCTTT
TATCTCCGTCCGTCTTCTCTCCTACCTAAGTGCGTGCCGCCACCCGATGG**AAGAT**TCGATGGACATGGAC
ATGAGCCCCCTGAGGCCCCAGAACTATCTTTTCGGTTGTGAACTAAAGGCCGACA**AAGAT**TATCACTTTA
AGGTGGATAAT**GATGAA**AATGAGCACCAGTTATCTTTAAGAACGGTCAGTTTAGGGGCTGGTGCAAAG**GA
TGAAT**TGCACATTGTTGAAGCAGAGGCA**ATGAAT**T**ATGAA**GGCAGTCCAATTAAAGTAACACTGGCAACT
TTGAAAATGTCTGTACAGCCAACGGTTTCCCTTGGGGGCTTTGAAATAACACCACCAGTGGTCTTAAGGT
TGAAGTGTGGTTCAGGGCCAGTGCATATTAGTGGACAGCACTTAGTAGCTGTGGAGG**AAGATG**CAGAGTC
AG**AAGATGAA**GAGGAGGAGGATGTGAAACTCTTAAGTATATCTGGAAAGCGGTCTGCCCCTGGAGGTGGT
AGCAAGGTTCCACAGAAAAAAGTAAAACTTGCTGCT**GATGAAGATGATGA**C**GATGATGATGAA**GAG**GATG
ATGATGAAGATGATGATGATGATGA**TTTT**GATGATGA**GGAAGCTGAAGAAAAAGCGCCAGTGAAGAAAGG
A**CAAGA**ATCC**TTCAA**AAAACAGGAAAAAACTCCTAAAACACCAAAAGGACCTAGTTCTGTAGAAGACATT

AAAGCAAAAATGCAAGCAAGTATAGAAAAAGCGCATTGAACAGTCCTGGGCACTACATGTAAATTAAGCC
CA**AAGATG**GGGAGAAAGGAAAAGGAGAGACAAATATAGTCCATACTGAGTGTCATCAACAATCCAGACTG
AAGTCTTCTATTTTAATCTCAATCCCCTTTTCTGATTTGCCACCCATGCCTCTTCAGGCTGGAAACAATC
TCTTGGTTCCCTAAAGCACTTTCTTCTGACTGCTGTG**ATTCA**GTGAACCTTGCCCTTTGCTTTCTATTAC
TTGTGCATTTGCCTCACCTGACAATGTTTTAAATCGCCTTTGTATCTCCTTAGCTGCTCAATAAATATT**T**
GAATGAATCAA

48 1127 9.9 (3.15) **12.1σ**

Phodopus roborovskii (NPM1) genome assembly, contig: tig00001838, whole genome shotgun sequence GenBank: CALSGD010001391.1:45191572-45191735,45193134-45193213,45193609-45193728,45193919-45194012,45194333-45194439,45194739-45194800,45197041-45197098,45197333-45197416,45198153-45198254,45199997-45200071,45200851-45201920

CGCGTCCTTTCCCTGGCGTGATTCCGTCCTGCGTGTCTGTTCTTAGGAGCAGTAGGCAGTTTTCTCCGTC
CGATTTCCTTCACTCCGAAGTTCGCGCCTCCACCTCATGGAAGACTCGATGGACATGGACATGAGCCCTC
TTAGGCCTCAGAACTATCTTTTCGGTTGTGAACTAAAAGCTGACA**AAGAT**TATCACTTTAAGGTGGATAA
T**GATGAA**A**ATGAA**CACCAGTTATCACTAAGAACGGTTAGCTTAGGAGCAGGGGCAA**AAGATGAAT**TACAC
ATCGTAGAGGCAGAAGCA**ATGAA**CT**ATGAA**GGCAGTCCAATTAAAGTAACACTGGCAACTTTGAAAATGT
CTGTACAACCAACAGTTTCCCTTGGGGGTTTTGAAATTACACCACCCGTGGTCCTACGGTTG**AGATG**TGG
TTCAGGGCCTGTGCACATTAGTGGACAGCACCTAGTAGCTGTGGAGG**AAGATG**CAGAGTCAG**AAGATGAA**
GATGAGGAGGATGTAAAACTCTTAAGTATGTCTGGCAAGCGAT**CTGCC**CCTGGAGG**TGGTA**ACAAAGTTC
CCCAGAAAAAAGTAAAAATC**GATGAAGATGA**GGAGGAGGAG**GATGAAGATGATGA**G**GATGATGAAGATGA**
TGATGATGATGATTTT**GATGATGAA**GAAACTGAAGAAAAAGTTCCAGTGAAGAAATCTGTACGAGATACC
CCAGCCAAAAATGCACAAAAATCAAACCAA**AATGG**AAAAGACTTAAAACCATCAACAC**CAAGAT**CAAAAG
G**TCAAGA**GTCC**TTCAA**AAAACAGGAAAAAACTCCTAAAACCCCAAAAGGACCTAGTTCTGTAGAAGACAT
TAAGGCAAAAATGCAAGCAAGTATAGAAAAAGGTGGTTCTCTTCCCAAAGTGGAAGCCAAGTTCATTAAT
TATGTGAAGAATTGCTTCCG**GATGA**CTGATCAGGAGGCT**ATTCAAGAT**CTCTGGCAGTGGAGGAAGTCTC
TTTAAGAA**AATGGT**TTAAACAGTTTGAAATATTCCGTCTTACTTAATTTCTGTAACAGTTGATATATCTG
GCTGTCCTTTTTATAATGCAAAGTGAGAACTTTCCCTACTTTGTTTGATAAATGTTGTCCAGGTT**CCATT**
GCCAAGAATGTTGTCTAAAATGCCTGTTTAGTT**TTCAAG**GATGGAACTCCACCCTTTACTTGGTTTTAAG
TATGTATG**GAATG**TTATGATAGGACATAGTAATAGTGGTGGTC**AGATG**TGGA**AATGGTA**GGGAGACAAAA
ATATACATGTGAAATAAACTCAGTATTTTAATAAAGTAGCACGGTTTCTATTTGCTTATTTAACTT**CCAT**
TCTTTGTCTGAAGTTAAAAATGTCAGTGCCTCCCCAGCTACCAGTTATTGTTTGTAAATTCTGATCCAAG
TAAGACCTTATAGTCATGGATGTTTAGGGACCTGATCTAAGTTGGACATAAACACTG**ATTCA**TCCATCCT
GGTTTGCTGTGGTGTATTAACACATAA**TGCCA**ACAATGCATGGGAGAGTATAACTAC**TTCAA**AACAAAAT
TCAGTGCTGTCTTAGCATTT**TTCAA**TGTACCCCGTTTAATATATTGTGGTTTGTATTTTCTATT**ATGGT**C
TTCTCTACAATTGTATAATACATCAATTCTATATAGTCCCCAAGTGGAGTAAGTAATCAGGGGGAGTTTT
CCTGGGAAAG**TCAAG**TATCCTTGCATA**CATTC**TTAGCCTTTCTGTATCAAAAGTGTTCTTTTTGTTAGGG
AGTGAAGTTGTTGAGATTGTAACTTAAGGGCTGCTTGCTTTGTTCCTTACAACCTTTT**AATGG**GGAAATT
TTATACATACA**GGTAC**ACAACGGGTATATAAAGACATTTTAAAGTTATTCGGTAAATACACA**ATGAAGAT**
TGGATGTGTTTAACTATTGCATAAAAACCACTTGGC**TGAAT**ATAAATTATAG**GATGA**TTAACAGTGTCAT
ACATTTTACGAATACA**AATGG**CAAAAGTATTTTGAGAAGTGGAGTTAATGTTTGCC

66 2012 17.7 (4.2) **11.5σ**

Sus scrofa nucleophosmin (NPM1), transcript variant X1, mRNA NCBI Reference Sequence: XM_013990662.2

GCGCAGGAGAGAGACTGTGCGGGGAGGGGGGCTTCCGAGCACGCGCGCGGAGGCGGGACTTGAAGAGCTC
TCGCGAGATCGTCAGGGTGCTATATATGTGCGCAGGGAGCCCGCGTCCTTTCCCTGGTGTGATTCCGTCC
TGCGCGGCTGTTCTCCGCAACACTAGTGGATTATCTCCGTCCGCCTTCTCTCCCACCCAAGTGCGTGCCA
CCAACCCATGGAAGATTCGATGGATATGGACATGAGCCCCCTGAGGCCTCAGAACTATCTTTTCGGTTGT
GAACTAAAGGCCGATA**AAGAT**TACCACTTTAAGGTGGATAAT**GATGAA**AATGAGCACCAGTTATCTTTAA
GAACGGTCAGTTTAGGGGCTGGCGCAAAG**GATGA**GTTGCACATTGTAGAAGCAGAGGCA**ATGAAT**T**ATGA**
AGGCAGTCCAATCAAAGTAACACTGGCAACTTTGAAAATGTCTGTACAGCCGACGGTTTCCCTTGGGGGC
TTTGAAATAACACCACCTGTGGTCTTACGGTTGAAGTGTGGTTCAGGGCCTGTGCATATTAGTGGACAGC
ACTTAGTAGCTGTAGAGG**AAGATG**CAGAGTCAG**AAGATGA**GGAGGAGG**AAGATG**TGAAACTTCTGAGTAT
ATCTGGAAAGCGTTCTGCCCCCGGAGGTGGTAGCAAGGTTCCACAGAAAAAGGTAAAACTTGCTGCT**GAT**

GAAGATGAAGATGATGATGAAGATGATGACGACGATGACGAAGATGACGATGATGATGACTTTGATGATG
AGGAAGCGGAAGAAAAAGCTCCAGTAAAGAAATCAATACGGGATACTCCAGCCAAAAATGCACAGAAATC
AAACCAGAATGGAAAAGACTCAAAACCGTCAACACCAAGATCAAAAGGTCAAGAATCCTTCAAAAAACAG
GAAAAAACTCCTAAAACACCGAAAGGACCTAGTTCTGTAGAAGACATTAAAGCAAAAATGCAAGCAAGTA
TAGAAAAAGGTGGTTCTCTTCCCAAAGTGGAAGCCAAGTTCATCAATTATGTGAAGAATTGTTTCCGGAT
GACTGACCAGGAGGCTATTCAAGATCTCTGGCAGTGGAGGAAGTCTCTTTAAGAAAATAGTTTAAACAGT
TTGTTAAAATTTTCCGTCTTATTTCATTTATGTAACAGTTGATATCTGGCTGTCCTTTTTATAATGCAGA
GTGAGAACTTTCCCTACCGTGTCTGATAAATGTTGTCCAGGTTCCATTGCCAAGAATGTGTTGTCCAAAA
TGCCTGTTTAGTTTTTAAAGATGGAACTCCACCCTTTGCTTGGTTTTAAGTATGTATGGAATGTTATGAT
AGGACATAGTAGTAGTGGTGGTCAGACAAATGGAAATGGTGGGGAGACAAAAATATACATGTGAAATAAA
CTCAGTATTTTAATAAAGTAGCACTATTTCTTCTGTT

53 1433 12.6 (3.55) **11.4σ**

Eptesicus fuscus nucleophosmin 1 (NPM1), transcript variant X2, mRNA NCBI Reference Sequence: XM_054718139.1
TGCCGTCGCCATCTTGCAGGGTGGGCTGCGCAGACTTTTGGCGCCAGGCCCGCGCGCACGAGCAAGACGT
AGAGCCCGCGTCCTTTCCCTGGTGCGATTCCGTCCTGCGCGTCTGTTCTGCAGCACAGAAGCCGTTCATC
TCCGCCCGCCTTCTCTCTCACCTAAGTGCGTGCTACCACCCCATGGAAGATTCTATGGACATGGACATGA
GCCCTCTGAGGCCCCAGAACTACCTTTTCGGTTGTGAACTAAAGGCCGATAAAGATTATCACTTTAAGGT
GGATAATGATGAAAATGAGCACCAGTTATCTTTACGAACGGTCAGTCTAGGGGCTGGAGCAAAGGATGAA
CTGCACATTGTCGAAGCAGAGGCCATGAATTACGAAGGCAGTCCGATTAAAGTAACACTGGCAACTTTGA
AAATGTCTGTACAGCCAACGGTTTCCCTTGGTGGCTTTGAAATAACACCACCTGTGGTCTTACGGTTGAA
GTGTGGTTCAGGGCCTGTGCATATTAGTGGACAGCACTTAGTAGCTGTGGAGGAAGATGCAGAGTCAGAA
GATGACGAAGAGGAGGATGTGAAACTCCTAAGTATGTCTGGAAAGCGGTCAGCCCCTGGAGGTGGTAGCA
AGGTCCCGCAGAAAAAGGTAAAACTTGCTGATGAAGATGATGAGGATGACGATGAAGAGGATGATGATGA
TGAAGATGATGATGATGATGATTTTGATGATGATGAAGCAGAAGAAAAAGCTCCAGTAAAGAAATCCATA
CGAGATACTCCAGCCAAAAATGCACAAAAATCAAATCAAAATGGAAAAGACTCAAAACCATCAACACCAA
GATCAAAAGGTCAAGAATCGTTCAAAAAACAGGAAAAAACTCCTAAAACACCGAAAGGACCTAGTTCTGT
AGAAGACATTAAAGCAAAAATGCAAGCAAGTATAGAAAAGGCGCATTGAACAATCCTGGGCACTACTGGT
AAATTAAGCCCAAAGATGGGGAAAGAGGAAAAGGAGAGACAAATATAGTCCATACTGAGTATCATCAACA
ATCCAGACTGAAGTCTTCTATTTTAATCTCAATGCCCTTTCCTGGTTTATCACTCACCCATGCCCCCTTC
CAGGCTGGAAGCAATCTCACTTAGTCTCCTAATGAACCTTTCTTTTGCTGTGATTCAGTGAACTTTTCTT
GACTTGTTCATTATTCTCGCCTCTTTGACCATGTTTTAAACACCTTTGTATCTCCCTAGCTGCTCAATAA
ATATTTGAATGAA

51 1269 11.8 (3.4) **11.4σ**

Agelaius phoeniceus nucleophosmin 1 (NPM1), transcript variant X3, mRNA NCBI Reference Sequence: XM_054642943.1
GTGCGCGTCCGCCCGCAGCGCAGGAGCTTCACTCAGTCGTGCCCCAGCCCCGCGATGGAGGACAGCGCCA
TGGACATGGAGAGCATGGGCCCACTGCGCCCGCAGACTTTCCTCTTCGGCTGCGAGCTTAAAGCGGATAA
AGAGTTTCAGTTTAAAGTAGATGATGAAGAAAATGAACATCAGTTGTCTCTGAGAACGGTTACTTTAGGA
GCTGGAGCCAAAGATGAATTACACATTGTAGAAGCAGAAGCACTGGACTATGAAGGCAACCCTACTAAAG
TAGTATTGGCATCTCTGAAAATGTCAGTGCAGCCTACAGTTTCCTTGGGTGGCTTCGAGATCACACCACC
AGTGGTGTTGAGGTTGAAATGTGGTTCAGGGCCTGTTTACGTCAGTGGTCAGCACCTCGTAGCATTAGAA
GAAGAACCAGAATCAGATGAGGAGGAAGATGATGCAAAAATTGTTAATGCTTCAACAAAGAGACCAGCAA
GTGGAGGAGGAGCTAAAACACCACAGAAAAAACCAAAATTAGCAGAAGATGATGAGGATGACGATGAAGA
TGAGGATGACGATGATGATGATGAGGATGACTTAGAGGATGATGAGGAAGAAATTAAAGCACCAATAAAG
AAACCTGTTCGTGAGGTTGCAGGAAAAAATATGCAGAAAGCAAAGCAGAATGGAAAAGATTCTAAGCCAT
CCACACCAGCATCTAAATCAAAAGGTACTACCCTTCCTAAGCTGGAGCCCAAATTTGCCAACTACGTTAA
GAATTGCTTCAGGACAGAGGACCAGAAGGTCATTCAAGCTCTCTGGCAGTGGAGACAGACTCTGTAAGAA
AAGAAAACAGTTTAAACAGTTCGTTAAAATCTGCAATCTTACTTCTGTAACCATTATTTGGCTGTTCTTT
TTACAAATACTGAAAGAGCTTTTCCTCCTGTGTCTGATAAATGTCATCCAGATT

41 960 8.44 (2.9) **11.2σ**

Table S4. Maxwell™ classification clusters.

Name gene or RNA	Distance to barycenter	% distance total	AL-prox	Mean AL-prox
Lynx rufus nucleolin	0		13,9	14,66
Suncus etruscus nucleolin	623310	24,2%	14,8	
Rhinolophus ferrumequinum nucleolin	445316	17,3%	16,4	
Elephas maximus indicus nucleolin	569205	22,1%	14,2	
Sciurus carolinensis nucleolin	496040	19,2%	16,3	
Equus quagga nucleolin	392613	15,2%	13	
Prionailurus viverrinus nucleolin	53318	2%	14	
Halorhabdus utahensis DSM 12940 strain DSM 12940 5S ribosomal RNA	0		1,7	1,28
Halovivax ruber XH-70 strain XH-70 5S ribosomal RNA	571428	19%	1,24	
Nitrosopumilus maritimus 5S	742857	24,6%	0,32	
Sulfolobus solfataricus P2 strain 5S	734693	24,4%	0	
Halomicrobium mukohataei DSM 12286 5S	571428	19%	2,8	
Halorubrum lacus profundi ATCC 49239 strain ATCC 49239 5S ribosomal RNA	393939	13%	1,63	
Methanolobus psychrophilus R15 strain 5S	0		2,8	4,95
Hydrobacter penzbergensis nucleolin	981132	33,5%	10,6	
Ogataea polymorpha strain nucleolin	969924	33,1%	3,6	
Stackebrandtia nassauensis DSM 44728 nucleolin	977086	33,4%	2,8	
Archaeoglobus veneficus SNP6 strain SNP6 5S ribosomal RNA	0		0,9	1,32
Hyperthermus butylicus DSM 5456 strain DSM 5456 5S	670103	31,6%	0	
Ferroglobus placidus DSM 10642 strain DSM 10642 5S ribosomal RNA	371134	17,5%	1,54	
Candidatus Korarchaeum cryptofilum 5S	587628	27,7%	1,7	
Archaeoglobus sulfaticallidus PM70-1 strain PM70 5S-1	190000	9%	1,6	
Archaeoglobus profundus DSM 5631 strain DSM 5631 5S ribosomal RNA	300000	14,2%	2,2	
Danio rerio nucleolin	0		8,6	6,85
Cyprinus carpio nucleolin gene complete cds	932679	20,9%	5,6	
Oncorhunchus mykiss nucleolin mNRA	958001	21,6%	2	
Xyrauchen texanus nucleolin	797979	17,9%	7	
Pangasionodon hypophthealmus nucleolin	872939	19,6%	7,1	
Astyanax mexicanus nucleolin	890483	20%	10,8	
Methanohalophilus mahii DSM 5219 strain 5S	0		2,2	2,75

Methanohalobium evestigatum Z-7303 strain Z-7303 5S ribosomal RNA	462264	**21,1%**	**2,2**	
Methanosarcina mazei 5S ribosomal RNA gene	389380	**17,8%**	**2,6**	
Methanosarcina barkeri 5S	449541	**20,5%**	**2,6**	
Methanosalsum zhilinae DSM 4017 strain DSM 4017 5S	432692	**19,7%**	**5,3**	
Methanomethylovorans hollandica DSM 15978 strain DSM 15978 5S	457142	**20,9%**	**1,6**	
Echinococcus granulosus isalte nucleolin	0		**1,5**	**6,72**
Anopheles funestus nucleolin	968060	**25%**	**3,74**	
Bactrocera dorsalis nucleolin	966539	**25%**	**9,13**	
Zea mays nucleolin	960456	**24,8%**	**10,6**	
Microplitis demolitor nucleolin	973384	**25,2%**	**8,62**	
Lates calcarifer nucleolin	0		**8,8**	**7,4**
Anopheles nili nucleolin	978413	**27,4%**	**4,1**	
Lethenteron camtschaticum nucleolin mRNA	965361	**27%**	**6,8**	
Bombina bombina nucleolin	974451	**27,3%**	**6,2**	
Acanthochromis polyacanthus nucleolin	651674	**18,3%**	**11,1**	
Thermosphaera aggregans DSM 11486 strain DSM 11486 5S ribosomal RNA	0		**0,2**	**0,04**
Ignicoccus hospitalis 5S	653061	**27,8%**	**0**	
Sulfolobus islandicus M,14,25 strain M,14,25 5S ribosomal RNA	607142	**25,9%**	**0**	
Pyrolobus fumarii 1A strain 5S	494117	**21%**	**0**	
Acidilobus saccharovorans 345-15 strain 345-15 5S ribosomal RNA	593406	**25,3%**	**0**	
Vulcanisaeta distributa DSM 14429 strain DSM 5S	0		**1,65**	**1,13**
Candidatus Nitrososphaera gargensis Ga9,2 5S	683673	**32,4%**	**1**	
Vulcanisaeta moutnovskia 768-28 strain 768-28 5S	284313	**13,5%**	**1,6**	
Thermoproteus uzoniensis 5S	550000	**26%**	**0,3**	
Pyrobaculum neutrophilum V24Sta strain 5S	593750	**28,1%**	**1,1**	
Harpia harpyja nucleolin	0		**14,3**	**14,4**
Serinus canaria nucleolin	517621	**25,1%**	**14,2**	
Manacus candei nucleolin	506172	**24,5%**	**12,6**	
Gallus gallus nucleolin	566629	**27,4%**	**19,8**	
Cygnus atratus nucleolin	474118	**23%**	**11,1**	
Orcinus orca nucleolin	0		**12,3**	**15,5**
Phacochoerus africanus nucleolin	453142	**26,6%**	**11,6**	
Camelus dromedarius breed African isolate Drom800 chrom, 5 nucleolin	424190	**24,9%**	**14,5**	
Budorcas taxicolor nucleolin	416050	**24,3%**	**19,6**	
Bos taurus nucleolin	412946	**24,2%**	**19,6**	

Thermococcus onnurineus NA1 strain NA1 5S ribosomal RNA	0		1,5	1,42
Thermococcus sibiricus MM 739 strain MM 739 5S	190476	25,4%	1,5	
Thermococcus nautili 5S	209523	28%	1,5	
Thermococcus litoralis 5S	120370	16,1%	1,1	
Thermococcus gammatolerans EJ3 strain 5S	228571	30,5%	1,5	
Salinarchaeum sp, Harcht-Bsk1 strain Harcht-Bsk1 5S ribosomal RNA	0		1,1	0,6
Caldivirga maquilingensis IC-167 strain IC-167 5S	839743	39,6%	1	
Methanobacterium sp, AL-21 strain AL-21 5S	824074	38,9%	0,3	
Haloterrigena turkmenica DSM 5511 strain DSM 5S	455445	21,5%	0	
Natronomonas moolapensis 8,8,11 strain 8,8,11 5S	0		0,35	0,725
Halalkalicoccus jeotgali B3 strain B3 5S ribosomal RNA 5S	352380	50,7%	2,25	
Natronomonas pharaonis DSM 2160 strain DSM 2160 5S	95238	13,7%	0	
Haloarcula hispanica ATCC 33960 strain CGMCC 1,2049 5S ribosomal RNA	247619	35,6%	0,3	
Rhipicephalus sanguineus nucleolin	0		14,8	7,4
Halopiger xanaduensis SH-6 strain SH-6 5S	978615	33,3%	1,1	
Drosophila albomicans nucleolin	980651	33,3%	6,7	
Octopus bimaculoides nucleolin	982199	33,4%	6,9	
Methanoregula formicica SMSP 5S ribosomal RNA	0		1,5	1,1
Ferroplasma acidarmanus fer1 strain fer1 5S	769230	35,9%	0,3	
Methanosphaerula palustris E1-9c strain E1-9c 5S ribosomal RNA	685714	32%	2,3	
Aciduliprofundum boonei T469 strain T469 5S ribosomal RNA	686274	32,1%	0,3	
Desulfurococcus fermentans DSM 16532 strain DSM 16532 5S ribosomal RNA	0		0	0
Desulfurococcus kamchatkensis 1221n strain 1221n 5S ribosomal RNA	127450	22,3%	0	
Staphylothermus hellenicus DSM 12710 strain DSM 12710	212765	37,2%	0	
Desulfurococcus mucosus DSM 2162 strain DSM 2162 5S ribosomal RNA	231578	40,5%	0	
Acinonyx jubatus nucleolar protein 11 (NOL11) variant X1	0		1,14	1,53
Panthera pardus nucleolar protein 11 (NOL11) variant X1	100112	61,2%	2,9	
Acinonyx jubatus nucleolar protein 11 (NOL11) variant X2	63399	38,8%	0,54	
Phacochoerus africanus nucleolar protein 11 (NOL11)	0		2,8	4,27
Rhinolophus ferrumequinum protein 11 (NOL11)	614669	45,9%	6,6	
Prionailurus viverrinus nucleolar protein 11 (NOL11)	725088	54,1%	3,4	
Podarcis raffonei nucleolin	0		5,7	8,2
Gopherus flavomarginatus nucleolin	800942	47,8%	6,8	
Ornithorhynchus anatinus nucleolin	876195	52,2%	12	
Ignisphaera aggregan 5S	0		1	0,97

Caldisphaera lagunensis DSM 15908 strain DSM 15908 5S	705263	53,6%	1,6	
Fervidicoccus fontis Kam940 strain Kam940 5S ribosomal RNA	610526	46,4%	0,3	
Rattus norvegicus nucleolin gene	0		18,8	11,6
Mus musculus nucleolin gene	703507	44,2%	8,3	
Peromyscus californicus insignis nucleolin	888888	55,8%	7,7	
Pyrococcus yayanosii CH1 strain 5S	0		1,5	1,17
Methanoplanus petrolearius 5S ribosomal RNA	582524	49,3%	0,3	
Methanothermus fervidus DSM 2088 5S	598039	50,7%	1,7	
Dicentrarchus labrax nucleolin	0		5,5	6,5
Epinephelus moara nucleolin	553706	49,7%	7,3	
Epinephelus fuscoguttatus nucleolin	561465	50,3%	6,7	
Microtus fortis nucleolin	0		15,7	13,6
Phodopus roborovskii nucleolin	538420	46,2%	12,1	
Apodemus sylvaticus nucleolin	627619	53,8%	13	
Methanosaeta concilii GP6 strain GP6 5S ribosomal RNA	0		2,3	3,3
Methanosaeta thermophila strain 5S	406250	51%	2,3	
Methanosaeta harundinacea 6Ac 5S	390000	49%	5,3	
Methanocaldococcus fervens AG86 strain AG86 5S ribosomal RNA	0		2,4	2,3
Methanocaldococcus vulcanius M7 strain M7 5S ribosomal RNA	108695	48,7%	1,1	
Methanocaldococcus jannaschii DSM 2661 strain DSM 2661 5S	114583	51,3%	3,5	
Hemicordylus capensis nucleolar variant x1 (NOL11)	0		5,4	5,6
Hemicordylus capensis variant x2 nucleolar (NOL11)	94681	51,1%	4,9	
Hemicordylus capensis nucleolar (NOL11) x3	90590	48,9%	6,6	
Cygnus atratus nucleolar protein (NOL11)	0		6,7	5,97
Harpia harpyja nucleolar protein 11 (NOL11) variant X1	556082	47,5%	5,9	
Harpia harpyja nucleolar protein (NOL11) variant X2	614007	52,5%	5,3	
Acidianus hospitalis W1 5S	0		0	0
Aeropyrum camini SY1 = JCM 12091 5S	500000	50,5%	0	
Aeropyrum pernix K1 strain K1 (= NBRC 100138) 5S ribosomal RNA	488636	49,5%	0	
Pyrobaculum arsenaticum DSM 13514 5S	0		0,4	0,3
Pyrobaculum oguniense TE7 5S	31250	12,2%	0,3	
Pyrobaculum aerophilum str, IM2 strain 5S	224489	87,8%	0,2	
Gulo gulo luscus isolate (NOL11)	0		4,9	3,55
Lutra lutra nucleolar protein 11 (NOL11) variant X2	297282	100%	2,2	
Halostagnicola larsenii strain XH-48 5S ribosoma	0		1,1	1,4

Natrialba magadii ATCC 43099 strain ATCC 43099 5S ribosomal RNA	307692	100%	1,7	
Halobacterium salinarum R1 strain DSM 671 = R1 5S	0		1	0,95
Halobacterium sp, NRC-1 strain NRC-1 5S	47619	100%	0,9	
Natronococcus occultus SP4 strain SP4 5S ribosomal RNA	0		0,32	0,66
Natrinema pellirubrum DSM 15624 strain DSM 15624 5S ribosomal RN	91743	100%	1	
Methanocaldococcus infernus ME strain ME 5S ribosomal RNA	0		3	2,05
Methanotorris igneus Kol 5 strain Kol 5 5S ribosomal	387096	100%	1,1	
Peromyscus californicus insignis nucleolar (NOL11)	0		6,4	4,75
Rattus norvegicus nucleolar protein 11 (NOL11) x2	619990	100%	3,1	
Methanococcus voltae A3 strain A3 5S	0		7	5
Methanococcus maripaludis S2 strain 5S	323529	100%	3	
Cricetulus griseus C23 nucleolin glycine rich region	0		2,7	7,3
Homo sapiens nucleolin gene	980160	100%	11,9	
Metallosphaera cuprina Ar-4 strain Ar-4 5S ribosomal	0		0	1,4
Methanothermobacter marburgensis str 5S	836956	100%	2,8	
Methanothermococcus okinawensis IH1 strain IH1 5S ribosomal RNA	0		1,8	1,05
Ornithorhynchus anatinus isolate Pmale09 chromosome 1 5S	806451	100%	0,3	
Haloquadratum walsbyi DSM 16790 5S	0		0	0
Halogeometricum borinquense 5S	628571	100%	0	
Thermofilum pendens 5S ribosomal RNA	0		0	0,5
Caldivirga maquilingensis IC-167 strain IC-167 5S	696969	100%	1	
Hippocampus zosterae nucleolar protein NOL11	0		1,9	5,2
Podarcis raffonei nucleolar x1 NOL11	955613	100%	6,6	
Nanoarchaeum equitans Kin4-M 5S	0		2,9	2,85
Nanoarchaeum equitans Kin4-M 5S ribosomal RNA	97087	100%	2,8	
Haloferax mediterranei ATCC 33500 strain CGMCC 5S	0		0	0
Haloferax volcanii DS2 strain DS2 5S ribosomal RNA	74766	100%	0	
Xenopus laevis mRNA for nucleolin	0		13	13
Acinonyx jubatus nucleolar protein 11 (NOL11)	0		0,5	0,5
Anopheles moucheti nucleolin	0		3,7	3,7
Exophiala sp nucleolin	0		9,5	9,5
Bauhinia variegata isolate chromosome 1 nucleolin	0		14,9	14,9
Lactobacillus lindneri DSM 20690 nucleolin	0		11,7	11,7
Pristis pectinata nucleolar NOL11	0		3,2	3,2
Syngnathus scovelli nucleolin	0		3,6	3,6