

Table S1: Primers sequence

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>GLDC</i>	NM_000170.3	Glycine decarboxylase	TGGCATGGGCTATTATAACT GTATGGAGTATACTGGGTGATCC
<i>GCSH</i>	NM_004483.5	Glycine cleavage system protein H	GCATTGGAACAGTGGGAAT CCAACTTCAGGGAGACTACAATA
<i>AMT</i>	NM_000481.4	Aminomethyltransferase	AGGAGGTGCTCCGCAGGA GCAGCATATGAGACACGTCAAAG
<i>PHGDH</i>	NM_006623.4	Phosphoglycerate dehydrogenase	CAGCACCAAGGAGGCTCA CAGCAATTCCTCCCCACA
<i>PSAT1</i>	NM_058179.4	Phosphoserine aminotransferase 1	AGTGGAGCCCCAAAATAGAA CCTATGCCCTTTCAAGGAC
<i>PSPH</i>	NM_004577.4	Phosphoserine phosphatase	AGGAAGCTTTTCTACTCAGCA GAGTCTCTGCACCTGCTC
<i>SHMT1</i>	NM_004169.5	Serine hydroxymethyltransferase 1	GACTGAGTTTATTGATGAACTGG CCTGAGTAGGGCTGGAC
<i>SHMT2</i>	NM_005412.6	Serine hydroxymethyltransferase 2	TCAGCCACGTCCATCTTCT CAGTGCCAGCTGGTTGTAGT
<i>SRR</i>	NM_021947.3	Serine racemase	GCAATACAAGCCTACGGAGC GGCAATTGTCCCTTGTCCAG

Folate Cycle

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>MTHFD1</i>	NM_005956.4	Methylenetetrahydrofolate dehydrogenase 1	TTGGACAGGCTCCAACGGAGAA AGAAGTGGTGAGAGCCAGGACA
<i>MTHFD2</i>	NM_006636.4	Methylenetetrahydrofolate dehydrogenase 2	CTCCTTGTTTCAGTTGCCTCTTCC CTGATCCAAACACATTCGTCCTAC
<i>MTHFR</i>	NM_005957.5	Methylenetetrahydrofolate reductase	AGATGGCTACCACAGAGGTGCT TGGGACGTACATCTTCCTCTCG
<i>DHFR</i>	NM_000791.4	Dihydrofolate reductase	CATGGTCTGGATAGTTGGTGGC GTGTCACCTTTCAAAGTCTTGCATG
<i>TYMS</i>	NM_001071.4	Thymidylate synthetase	GGTGTTTTGGAGGAGTTGCTGTG GGAGAATCCCAGGCTGTCCAAA

Creatine Cycle

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>AGAT</i>	NM_001482.3	Glycine amidinotransferase	CCCACCACCTGTTCCCGGC GCATATATCACAATGTTGAGATG

mtDNA Depletion

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>ND1</i>	NM_173708.1	NADH dehydrogenase 1	GGCTATATACTACGCAAAGGC GGTAGATGTGGCGGGTTTATAGG
<i>12S (MT-RNR1)</i>	NC_012920.1	Mitochondrially encoded 12S rRNA	TGGCCACAGCACTTAAACAC TGGTTAGGCTGGTGTATAGGG
<i>18S</i>	NR_003286	Mitochondrially encoded 18S rRNA	ATCCATTGGAGGGCAAGTC GCTCCCAAGATCCAATACG

Cell Cycle

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>CCNA2</i>	NM_001237.5	Cyclin A2	CTCTACACAGTCACGGGACAAAG CTGTGGTGCTTTGAGGTAGGTC
<i>CCND1</i>	NM_053056.3	Cyclin D1	TCTACACCGACAATCCATCCG TCTGGCATTTTGGAGAGGAAGTG
<i>CDK1</i>	NM_001786.5	Cyclin-dependent kinase 1	GGAAACCAGGAAGCCTAGCATC GGATGATTCAGTGCCATTTTGCC
<i>CDK2</i>	NM_001798.5	Cyclin-dependent kinase 2	ATGGATGCCTCTGCTCTCACTG CCCGATGAGAATGGCAGAAAGC

NPCs Characterization

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>LIN28B</i>	NM_024674.6	Lin-28 homolog B	GGCATCTGTAAGTGGTTCAACG CCTCCTTCAAGCTCCGGA
<i>OCT3/4</i>	NM_001173531.3	POU class 5 homeobox 1	AGTTTGTGCCAGGGTTTTTG ACTTCACCTTCCCTCCAACC
<i>PAX6</i>	NM_001368894.2	Paired box 6	AATAACCTGCCTATGCAACCC AACTTGAACTGGAAGTACACAC
<i>NES</i>	NM_006617.2	Nestin	TGGCAAAGGAGCCTACTCCAAGAA ATCGGGATTGAGCTGACTTAGCCT
<i>SOX1</i>	NM_005986.3	SRY-box transcription factor 1	ATGCACCGCTACGACATGG CTCATGTAGCCCTGCGAGTTG
<i>MAP2</i>	NM_001375505.1	Microtubule-associated protein 2	AAAGCTGATGAGGGCAAGAA GGCCCCTGAATAAATTCCAT
<i>FOXP1</i>	NM_005249.5	Forkhead box G1	TACTACCGCGAGAACAAGCA TCACGAAGCACTTGTTGAGG

iAs Characterization

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>S100β</i>	NM_006272.3	S100 calcium binding protein B	TGTAGACCCTAACCCGGAGG TGCATGGATGAGGAACGCAT

<i>GFAP</i>	NM_002055.5	Glial fibrillary acidic protein	GTCCCCCACCTAGTTTGCAG TAGTCGTTGGCTTCGTGCTT
<i>VIM</i>	NM_003380.5	Vimentin	TGGACCAGCTAACCAACGAC GCCAGAGACGCATTGTCAAC
<i>ALDH1L1</i>	NM_001270364.2	Aldehyde dehydrogenase 1 family member L1	GGATGCCTTTGAGAATGGACGG TCCTGGTGCTGCTCCATGAGAT
<i>AQP4</i>	NM_001317384.3	Aquaporin 4	GCCATCATTGGAGCAGGAATCC ACTCAACCAGGAGACCATGACC
<i>APOE</i>	NM_000041.4	Apolipoprotein E	GGGTCGCTTTTGGGATTACCTG CAACTCCTTCATGGTCTCGTCC
<i>GLAST</i>	NM_001166695.3	Solute carrier family 1 member 3	TAAAGTGCCCATCCAGGC AAGACAACCTAGACCCAGGGC
<i>GLT-1</i>	NM_006516.4	Solute carrier family 2 member 1	CATGGGCTTCTCGAAACTG AAGGGCTGTGGGTGACAC
<i>MAP2</i>	NM_001375505.1	Microtubule associated protein 2	AAAGCTGATGAGGGCAAGAA GGCCCCTGAATAAATTCCAT
<i>NeuN</i>	NM_001350451.2	RNA binding fox-1 homolog 3	TACGCAGCCTACAGATACGCTC TGGTTCCAATGCTGTAGGTCGC

iAs Metabolism

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>GLYT1</i>	NM_001024845.3	Solute carrier family 6 member 9	GTCACAGCCATTGTGGATGAGG GCCGCATAGTTGTCCATCAGCA

<i>GLYT2</i>	NM_004211.5	Solute carrier family 6 member 5	CTGATGCTCCTCACTCTTGGAC TGC GTAGGTACTTGGGAAACTCG
--------------	-------------	----------------------------------	----------------------------------------------------

Endogenous Control

Gene	Genbank Ref.	Protein Name	Sequence 5'-3'
<i>ACTB</i>	NM_001101.5	Actin beta	GGCATGGGTCAGAAGGATTC CACAGCGAGCTCATTGTAGAAG
<i>TUBB1</i>	NM_030773.4	Tubulin beta	CTTTGTGGAATGGATCCCCA GACTGCCATCTTGAGGCCA