

File S1 Amino acid sequences of ASRs and their homologs used for phylogenetic analysis.

>ASR1

MAAGSMDGIFRNIFEGCISSCDSSIQRPPYHKNCGCALHERSRGGGSATPCRHRGRSEVVMFPIQRS
WSEGNLALHLASSSSSSNLQSLSSSSSISTLASLSSTVSDIDSPI

>ASR2

MAADGIFRSIFEGCISGLDSAIERRPYHKNCGCALHDKSSGAGKNQNQRRPPSCRRHGSSESISFPI
RRSWSEGNIMAMNLFSSSSSSNLQSLSSSSSLNLASDLPVDNAATEEPSRSNKQLRWTIDEGED
D

>Solyc12g010400.1 (*Solanum lycopersicum*)

MATGAAGDAIFRGVFEGSISGHDLEISKRPYHRNCGCALHKSRCNCSHSSRNMNISYPIRRSWSE
GCLSLVAAASAAASGHSSPCSSPTVTVADMSKRNLPLVNEGEDLVFRKEMKNIKRTLPR

>Solyc07g007050.1

MATGAAGDGLFRGVFDGCISGHDMGIQQRPYHRNCCKLHKSRCNCSHSSRCTNVSYPIRRSWS
ESCLSLAAGAYAGASGHSSTCSPASGVGGSDLTGKKNLVRSTSDEYDDVVLFKV

>Solyc07g007080.1

MATVAAEMMLQCVFDGSLMSDMNIERRPYHKNCSCAMHKQKGENTTTTCVHGRNVSFPKRQN
QKDMTSLIAASRFSSPSSSCNNSVVTSTV

>Glyma.09G094900.1 (*Glycine max*)

MASAAAADGLFRPIYEGCISAYDNDVERRPYHKNCGCALHKSRRNSSRACRHKLPKCNNVSYP
MRRAWSEGNLSMVSTTSTHSSPSSSPAAGFRPQHDEEGNTKNKLVVLFEMNN

>Glyma.15G202600.1

MAAADADGLFRPIYEGCISAYDNDVERRPYHKNCGCALHKSRRNSRACRHKLPKCNNVSYPMR
RAWSEGLSLMASATTAHSSPSSSPAAGFRPQHDEEGNSNKLGVLFEM

>Glyma.13G157000.1

MATGATPDGLFWSVYEGCISCYDNCVERRPYHRNCGCALHNKSLINCTHKLPRCNNVSYPMR
AWSEGLVLAASSSSPSQVATGGRPQPSLANVEEENKNCFS

>Glyma.17G104600.1

MATGAAPDGLFWSVVYEGCISGYDNCVERRPYHRNCGCALHNTSLINRTHKLPRCNNVSYPMR
RAWSEGLVLATSSSSSPSQVATGGRPQPSLANVEEENKNCFN

>Glyma.17G104700.1

MATGACQMMFQCVFEGSISLHDMEIERRPYHKNCGCALHNLNDGICSKACPQQRYVSFSKKT
WTDYCMHTTASKFSSHLSFLSKTRH

>Glyma.13G157100.1

MATGACQMMFQCVFEGSISLHDMEIERRPYHKNCGCALHNLNDGICSKACPQQRYISFRKKT
SWTDCCMHTTASKFYSSRSFLSKTRQ

>Potri.018G113700.1 (*Populus trichocarpa*)

MATGSADGFFRHVYDGLSSGDMGIDRRPYHRNCRCALHKSKEKNC
PHALPRCKNVSYPIKRSWSEGLALMIANSSSSSCHSSPSSPSLQAGKSTSTPSHQ
RRLSHDLEDKLAL

>Potri.006G189600.1

MAAGAADGFFRYVHDGCLSGGEMGIDRRPYHRNCSCALHKSKEKNC
SHAMSRYKNVSYPIKRCWSEGLALMVANSSSCCHSPSSPSLQAGKSTATPHQ
RRLSHDLDEQVCSFKV

>Potri.018G113900.1

MFIAASDIMFRCVFDGCISVDNMEIERRPYHRNCSCALHKMEGGSS
TGFP LPRNMFYPPKKQSWRRCSLSLATPSILLAYQLKVNSFSYTNVNLIFV
FQKYILFMKFLFVSNLQYEIQKKTRS

>Potri.006G189800.1

MFSAASDIMFRCVFDECISMDSMETERRPYHRNCNCALHKSKEKNC
SSTSPQPRNILFPKKQSWRDCSLSLVTYQPRVKQILAGPCYKWQPCLQAKK

>Potri.006G189700.1

MATGAAEMILKCIFSGSISLNDMEIRRRPYHRNCCKALHRLKDICS
DACPKQRSISFPKKQVRSDHPLSIATSR LSSPSTADDSSMQNIGSLFA
SETAITDNLN

>Dioal.03G029400 (*Dioscorea alata*)

MEAAQGLLQCVLDGCLSGFDDEIRRRPYHRNCSCALHRSEDKA
HAHHCFASSKISFPLRGSWYHASISYSLMDYVRS

>GSMUA_Achr5G22870_001 (*Musa acuminata*)

MAAGAEGWIRCVLDGCISAFDSEIRRRPYHRNCSCALHKFRCSSR
HDPCHAKISYPISLSSERLRITMPSSSSSSSCFTKAASDHGRGKIEEP
WHLLQALEHFRCVGC