

The gene sequences, amino acid sequences and promoter sequences

Amino acid sequence

> *Triticum aestivum* L.(TaAGPS2)

MAMAAAASPSKILIPPHRASAVTAAASTSCDSLRLLCAPRGRRQRPRGLVARPVPRRPFFFS
PRAVSDSKSSQTCLDPDASTSVLGII LGGGAGTRLYPLTKKRAKPAVPLGANYRLIDIPVSN
CLNSNISKIYVLTQFNSASLNRHLSRAYGSNIGGYKNEGFVEVLAAQQSPDNPWFQGT
DAVRQYLWLFEEHNVMEYLILAGDHLYRMDYEKFIQAHRETDADITVAALPMDEERATA
FGLMKIDEEGRIIEFAEKPKGEQLKAMMVDTTILGLEDAKEMPYIASMGIYVISKHVM
LQLLREQFPGANDFGSEVIPGATSTGMRVQAYLYDGYWEDIGTIEAFYNANLGITKKPIPD
FSFYDRSAPIYTQPRHLPPSKVLDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISEGAIIEDT
LLMGADYYETEADKKLLAEKGGIPIGIGKNSHIKRAIIDKNARIGDNVMIINV
DNVQEAARETDGYFIKSGIVTVIKDALLPSGTVI

> *Panicum hallii* L.(PhAGPS2)

MAMAAMASPSSMTMIPARHHSAAAPSPSTSGDSSVRRLRAQPRHGRRGRGTSVSTAASQR
RPFVFTPRAVSDSKSSQTCLDPDASTSVLGII LGGGAGTRLYPLTKKRAKPAVPLGANYRLI
DIPVSNCLNSNISKIYVLTQFNSASLNRHLSRAYGSNIGGYKNEGFVEVLAAQQSPDNPVW
FQGTADAVRQYLWLFEEHNVMEFLILAGDHLYRMDYEKFIQAHRETDADITVAALPMDE
KRATAFGLMKIDEEGRIIEFSEKPKGDQLKAMMVDTTILGLDDVRKEMPYIASMGIYVFS
KDVMLQLLREQFPGANDFGSEVIPGATSIGKRVQAYLYDGYWEDIGTIEAFYNANLGITKK
PVPDFSFYDRSAPIYTQPRHLPPSKVLDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISEGA
IIEDTLLMGADYYETEADKKLLAEKGGIPIGIGKNSHIRRAIIDKNARIGDNVKIVNVDNVQ
EAARETDGYFIKGGIVTVIKDALLPSGTVI

> *Setaria italica* (L.) P. Beauv.(SiAGPS1)

MAMAAMASPSSMTLIPARHHGAAPSTSGDSSLRLLSAQPRHGRRGRGVVSTAPARRRPF
VFTPRAVSDSKSSQTCLDPDASTSVLGII LGGGAGTRLYPLTKKRAKPAVPLGANYRLIDIP
VSNCLNSNISKIYVLTQFNSASLNRHLSRAYGSNIGGYKNEGFVEVLAAQQSPDNPVWFQ
GTADAVRQYLWLFEEHNVMEFIILAGDHLYRMDYEKFIQAHRETDADITVAALPMDEKRA
TAFGLMKIDEEGRIIEFAEKPKGDQLKAMMVDTTILGLDDVRKEMPYIASMGIYVFSKD
VMLQLLREQFPGANDFGSEVIPGATSIGKRVQAYLYDGYWEDIGTIEAFYNANLGITKKPIPD
DFSFYDRSAPIYTQPRHLPPSKILDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISEGAIIED
TLLMGADYYETEADKKLLAENG IPIGIGKNSHIRRAIIDKNARIGDNVKIIN
ADNVQEAARETDGYFIKGGIVTVIKDALLPSGTVI

> *Zea mays* L.(ZmAGPS2)

MAMAAIASPSSRTLIPRHHGAAPSPSTSGDSSLRLLCAHPRHGRRGRAMSVSTPAARSRP
FVFS PRAVSDSKSSQTCLDPDASTSVLGII LGGGAGTRLYPLTKKRAKPAVPLGANYRLIDIP
VSNCLNSNISKIYVLTQFNSASLNRHLSRAYGNNIGGYKNDGFVEVLAAQQSPDNPVWFQ
GTADAVRQYLWLFEEHNVMEFLILAGDHLYRMDYEKFIQAHRETDADITVAALPMDEKR
ATAFGLMKIDEEGRIIEFAEKPKGDQLKAMMVDTTILGLDDERAKEMPYIASMGIYVFSK
DVMLQLLREQFPGANDFGSEVIPGATSIGKRVQAYLYDGYWEDIGTIEAFYNANLGITKKP
IPDFS FYDRSAPIYTQPRHLPPSKVLDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISEGAI
EDTLLMGADYYETEADKKLLAENG IPIGIGKNSHIRKAIIDKNARIGDNVKILNADNVQE
AARETDGYFIKGGIVTVIKDALLPSGTVI

> *Sorghum bicolor* (L.) Moench(SbAGPS2)

MAMTAIASPSSRTLIPPRHHGAAPSPSTSGDSSLRLLRAHPRHGRRSRGVSVSTPAARSRPF
VFSSRAVSDSKSSQTCLDPDASTSVLGILGGGAGTRLYPLTKKRAKPAVPLGANYXLIDIP
VSNCLNSNISKIYVLTQFNASASLNRLHLSRAYGSNIGGYKNEGFVEVLAAQQSPDNPWFQ
GTADAVRQYLWLFEEHNVMEFLILAGDHLYRMDYEKFIQAHRETDADITVAALPMDEAR
ATAFGLMKIDEEGRIIEFAEKPKEQLKAMMVDTTILGLDDVRAKEMPYIASMGIYVFSK
DVMLQLLREQFPGANDFGSEVIPGATTIGKRVQAYLYDGYWEDIGTITAFYNANLGITKKP
VPDFSFYDRSAPIYTQPRHLPPSKVLDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISEGAI
EDTLLMGADYYETEADKLLAENGGIPIGIGKNSHIRRAIIDKNARIGDNVKI
LNADNVQEAARETDGYFIKGGIVTVIKDALLPSGTVI

> *Oryza sativa* L.(OsAGP2)

MAMAAAMGVASPYHAAHAAASTSCDSLRLVAEGRPRRPRGVASSSSSSSSSAGRRRRP
LVFSPRAVSDSKSSQTCLDPDASTSVLGILGGGAGTRLYPLTKKRAKPAVPLGANYRLIDIP
VSNCLNSNISKIYVLTQFNASASLNRLHLSRAYGNNIGGYKNEGFVEVLAAQQSPDNPWFQ
GTADAVRQYLWLFEEHNVMEFLILAGDHLYRMDYEKFIQAHRETDSDITVAALPMDEKRA
TAFGLMKIDEEGRIVEFAEKPKEQLKAMMVDTTILGLDDVRAKEMPYIASMGIYVISKN
VMLQLLREQFPGANDFGSDVIPGATNIGMRVQAYLYDGYWEDIGTIEAFYNANLGITKKP
VPDFSFYDRSAPIYTQPRHLPPSKVLDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISEGAI
EDSLLMGADYYETEADKLLGEKGGIPIGIGKNCHIRRAIIDKNARIGDNVKIINVDNVQE
AARETDGYFIKSG

> *Solanum tuberosum* L.(StAGPS2)

MAASIGALKSSPSSNNCINERRNDSTRAVSSRNLSFSSSHLTGDKLMPISSLRSQGVRFNVR
RSSLIVSPKAVSDSQNSQTCLDPDASRSVLGILGGGAGTRLYPLTKKRAKPAVPLGANYRL
IDIPVSNCLNSNISKIYVLTQFNASASLNRLHLSRAYASNMGYKNEGLVEVLAAQQSPENPD
WFQGTADAVRQYLWLFEEHTVLEYLILAGDHLYRMDYEKFIQAHRETDADITVAALPMD
EKRATAFGLMKIDEEGRIIEFAEKPQGEQLQAMKVDTTILGLDDKRAKEMPLVASMGIYVI
SKDVMLNLLRDKFPGANDFGSEVIPGATSLGMRVQAYLYDGYWEDIGTIEAFYNANLGIT
KKPVPDFSFYDRSAPIYTQPRYLPPSKMLDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISE
GAIIEDSLLMGADYYETDADRKLLAAKGSVPIGIGKNCHIKRAIIDKNARIGDNVEIINKDN
VQEAARETDGYFIKSGIVTVIKDALIPSGIII

> *Hordeum vulgare* L.(HvAGPS2b)

MAMAAAASPKILIPPHRASAVTAAASTSCDSLRLLCAPRGRRQRPRGLVARPVPRRPFFFS
PRAVSDSKSSQTCLDPDASTSVLGILGGGAGTRLYPLTKKRAKPAVPLGANYRLIDIPVSN
CLNSNISKIYVLTQFNASASLNRLHLSRAYGSNIGGYKNEGFVEVLAAQQSPDNPWFQGT
DAVRQYLWLFEEHNVMEYLILAGDHLYRMDYEKFIQAHRETDADITVAALPMDEERATA
FGLMKIDEEGRIIEFAEKPKEQLKAMMVDTTILGLEDAKEMPYIASMGIYVISKHVM
LQLLREQFPGANDFGSEVIPGATSTGMRVQAYLYDGYWEDIGTIEAFYNANLGITKKPIP
FSFYDRSAPIYTQPRHLPPSKVLDADVTDSVIGEGCVIKNCKIHHSVVGLRSCISEGAIIEDT
LLMGADYYETEADKLLAEKGGIPIGIGKNSHIKRAIIDKNARIGDNVMIINVDNVQEAAR
ETDGYFIKSGIVTVIKDALLPSGTVI

genetic sequence

> *Triticum aestivum* L.(TaAGPS2)

ATGGCGATGGCCGCGGCCGCTTCCCCTTCCAAGATCCTGATCCCTCCGCACCGAGCCTC
CGCCGCGACCGCTGCCGCGTCCACCTCCTGCGACTCCCTCCGCCTCCTCTGCGCGCCG

CGAGGACGGCGCCAGCGCCCCGCGCGTGTGGTTCGCCCCGTCCGGCTCCGCGGCGGCCCC
TTCTTCTTCTCCCCACGTGCCGTGTCAGACTCCAAGAGCTCCCAGACCTGTCTCGACC
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GTATCCCCTGACGAAGAAGCGTGCGAAGCCTGCAGTGCCACTGGGTGCCAACTACAG
GCTTATTGATATTCCTGTCAGTAATTGTCTGAACAGCAACATATCAAAGATCTATGTGCT
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TACGACCATACTTGGCCTTGACGATGCGAGGGCAAAGGAAATGCCTTATATTGCTAGCA
TGGGTATCTATGTTATTAGCAAACATGTGATGCTTCAGCTTCTCCGTGAGCAATTCCTG
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TCCCATTGGTATTGGAAAGAATTCACACATCAAAAGAGCAATAATTGACAAGAATGCTC
GTATTGGAGATAACGTGATGATAATCAATGTTGACAATGTTCAAGAAGCGGCAAGGGA
GACAGATGGATATTTTCATCAAAAGTGGCATTGTA ACTGTGATCAAGGATGCTTTACTCC
CTAGTGGAACAGTCATATGA

>Hordeum vulgare L.(HvAGPS2b)

ATGGCGATGGCCGCGGCCGCGCTCCCCTTCCAAGATCCTGATCCCTCCGCACCGAGCCT
CCGCCGTGACCGCTGCCGCGTCCACCTCCTGCGACTCCCTCCGCCCTCTGCGCGCC
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TCCCATTGGTATTGGAAAGAATTCACACATCAAAAGAGCAATCATTGACAAGAATGCTC
GTATTGGAGATAACGTGATGATAATCAATGTTGACAATGTTCAAGAAGCGGCGAGGGA
GACAGATGGATACTTCATCAAAAGTGGCATCGTAACTGTGATCAAGGATGCTTTACTCC
CTAGTGGAACAGTCATATGA

> *Panicum hallii* L.(PhAGPS2)

ATGGCGATGGCCGCCATGGCCTCCCCGTCGTCCATGACCATGATCCCTGCGCGCCACCA
CAGCGCCGCGCCATCCCCGTCCACCTCCGGCGACTCCTCGGTCCGCCGCCTCCGCGCG
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CTATGTGCTGACACAGTTCAACTCCGCTTCTCTCAATCGTCACCTCTCAAGAGCCTACG
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TGCTTTGCTCCCAAGCGGAACAGTTATATGA

> *Setaria italica* (L.) P. Beauv.(SiAGPS1)

ATGGCGACGGCGACGGGCGCGATGGCCGCCACCTCCCGGGCCCCGATCCCTGCTGTGCG
CGGCATTCCCGGGTGATTTGGGCCTCGGGCGCTGCCGGGCGGCCGTGCCCGGGTGGCG
CACCGGCGGGAGACGGCTGCGGGCGTCCCGTCCGCCGGAGGCCGTTCGTGTTCTC
GCCGAGGGGCGTGTCGGA CTG CAGAGCTCGCAGACGTGCCTCGATCCGGATGCCAG
CACGAGTGTTCTTGGAATCATCCTTGAGGTGGTGCTGGGACAAGGCTGTATCCACTG
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AGAAAATGTGAAGATAATCAATTTTGACAATGTCCAAGAAGCAGTAAGGGAGACAGA
AGGATACTTCATCAAAAGTGGCATAGTCACGGTGATTAAGGATGCCTTGATTCCTAGTG
GAACAGTCATATAG

> *Zea mays* L.(ZmAGPS2)

ATGGCGATGGCAGCCATAGCCTCCCCGTCGTCGAGGACCCTGATCCCTCCGCGACACC
ACGGCGCCGCGCCCTCCCCGTCCACCTCCGGCGACTCCTCGCTCCGCCTCCTCTGCGC
ACACCCGCGCCACGGACGGCGCGGCCGGGCGATGTCCGTCTCGACGCCCCGCGGCGCG
GAGCCGGCCGTTTCGTCTTCTCCCCGCGCGCGGTGTCCGACTCTAAGAGCTCCCAGACC
TGCCTCGACCCCGACGCCAGCACGAGTGTTCTTGGAATCATTCTCGGAGGTGGTGCTG
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TCTATGTGCTAACACAATTCAACTCTGCTTCCCTCAACCGTCACCTCTCAAGAGCCTAC
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CAGAGCCCAGATAATCCAACTGGTTTTCAGGGTACTGCAGATGCTGTAAGGCAATACT
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TTGGAAGAGGGTTCAGGCTTATCTATATGATGGTTATTGGGAAGATATTGGTACAATTG
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AGCTGCAAGGGAGACAGACGGGTACTTCATCAAAGGTGGAATTGTCACAGTGATCAA
GGATGCTTTACTCCCTAGTGGGACAGTTATATGA

> *Sorghum bicolor* (L.) Moench(SbAGPS2)

ATGGCGACGGCGATGGGCGCGTTGGCTGCCACCTCCCTGACCCCGGTCCCGGCTGCCG
CTACGTTCCCCGGTGATCTCGGCCTCGGACGCCGCCGGGCGGCTGTGTCAGGGTGGCG
CGCCGGCGGGAGACGGCTGCGTGCGTCGCCGCCTGCCCGGAGGCCGTTCTTGTCTC
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CACGAGTGTTCTTGGGATCATCCTTGAGGTGGTGCTGGGACAAGGCTGTATCCACTG
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ACCATCATATAA

> *Oryza sativa* L.(OsAGP2)

ATGGCGATGGCGGCAGCCATGGGCGTGGCCTCCCCCTACCACGCCGCCCACGCCGCCG
CATCCACATCGTGCGACTCGCTCCGCCTCCTCGTCGCGGAAGGCCGGCCGCGCGGCC
GCGAGGGGTGGCCTCCTCCTCCTCCTCCTCCTCCTCGGCGGGGAGGCGGAGGCGGCC
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TGCCAATGGATGAGAAACGTGCAACTGCATTCGGCCTCATGAAAATTGACGAGGAAGG
GAGAATAGTTGAATTTGCAGAGAAACCAAAAGGAGAACAATTGAAAGCAATGATGGT
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AGAGACTGATGGATACTTCATCAAAAGTGGCATTGTTACCGTGATCAAGGATGCTTTGC
TCCCTAGCGGAACAGTTATATGA

>*Solanum tuberosum* L.(StAGPS2)

ATGGCGGCTTCCATTGGAGCCTTAAAATCTTCACCTTCTTCTAACAATTGCATCAATGA
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AGPS2b Promoter sequence

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