

IDENTIFICATION

Species: *Helianthus annuus*

Locus: HanXRQChr13g0415821

Gene Model: HanXRQChr13g0415821

Description: HanEXPA-30

Family: Alpha Expansin

3D structure:



GENOME DATABASES

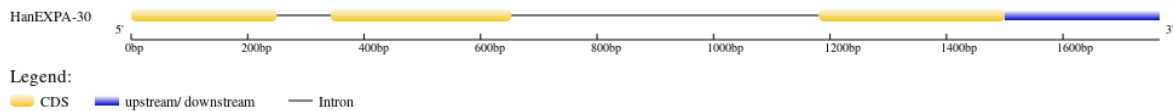
Phytozome: https://phytozome-next.jgi.doe.gov/info/Hannuus_r1_2

KEGG: <https://www.genome.jp/entry/T05101>

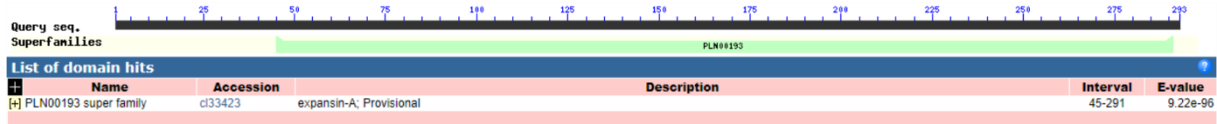
EXTERNAL RESOURCES

<https://www.heliagene.org/>

GENE STRUCTURE



DOMAIN ARCHITECTURE



SEQUENCES

Peptide

>HanEXPA-30

MALNVEEASFSHTNFTTHLKIKKSNKMASFYDSWSFFCFFSIVTLIFSRFINPTAAVYH
GYAPSPWTLAHATFYGDESASATMGGACGYGNLITNGYGTDTAALSSTLFSDDGYAC
GQCYQIKCVQSPWCYSGYTTVTATNLCPPNWSQDSNNGGWCPNPRTHFDMAKPAF
MKIAQWKAGIVPVMYRRVPCNAIRKGGIRFSFQNGYWLLVYVMNVAGAGDIHQM
WVKGKTGWISMSHNWGASYQAFATLQGQALSFRLLTSHTTKQTITAYNVAPANWN
LGLTYQAHVNFH*

CDS (coding sequence)

>HanEXPA-30

ATGGCTCTTAATGTTGAAGAAGCATCATTTCAGTCATACAAATTTTACAACACATTT
AAAGATCAAGAAATCAAACAAAATGGCTTCCTTTTATGATTCATGGAGCTTTTTC
TGCTTCTTTAGCATTGTCACACTCATCTTCTCAAGGTTTCATAAACCCTACTGCAGC
TGTCTATCATGGCTACGCCCGAGCCCATGGACCCTAGCCCACGCCACATTTTAT
GGCGATGAGTCTGCGTCTGCAACCATGGGGGGTGCTTGTGGATACGGAACTTGA
TTACTAATGGATATGGAACCGACACAGCTGCACTGAGCTCAACACTCTTTAGTGA
CGGATATGCATGTGGTCAGTGCTACCAAATAAAGTGTGTCCAATCTCCATGGTGC
TATAGTGGTTACACAACCGTTACCGCCACCAACCTCTGCCACCCAACCTGGTCTC
AGGATTCGAACAATGGTGGGTGGTGAACCCCTCCCCGAACCCATTTTCGACATGGC
TAAGCCCGCGTTCATGAAAATTGCCCAATGGAAAGCTGGCATCGTCCCAGTCATG
TACCGCAGGGTTCCATGCAATGCTATCAGGAAAGGTGGAATCAGATTTTCTTTTC
AGGGAAATGGGTACTGGTTATTGGTGTATGTGATGAATGTTGCTGGTGGTGA
CATCCATCAGATGTGGGTCAAAGGGACCAAGACCGGCTGGATCAGCATGAGCCA
TAACTGGGGCGCGTCTTACCAAGCGTTTGCAACTCTTCAGGGTCAAGCCCTATCC
TTCAGGCTAACTTCACACACCACAAAACAGACCATTACGGCTTACAATGTGGCCC
CGGCTAACTGGAACCTGGGGTTGACGTACCAAGCCCATGTCAATTTCCATTGA

Nucleotide

>HanEXPA-30

ATGGCTCTTAATGTTGAAGAAGCATCATTTCAGTCATACAAATTTTACAACACATTT
AAAGATCAAGAAATCAAACAAAATGGCTTCCTTTTATGATTCATGGAGCTTTTTC
TGCTTCTTTAGCATTGTCACACTCATCTTCTCAAGGTTTCATAAACCCTACTGCAGC

TGTCTATCATGGCTACGCCCCGAGCCCATGGACCCTAGCCCACGCCACATTTTAT
GGCGATGAGTCTGCGTCTGCAACCATGGGTATATATAAACACATATAACATAGT
CTAATTATCATCTAATAGTATTTGATATGGTGTGAAAATAACAATATACTTTAATC
ATTGTTTCAGGGGGTGTGTGGATACGGAACTTGATTACTAATGGATATGGAA
CCGACACAGCTGCACTGAGCTCAACACTCTTTAGTGACGGATATGCATGTGGTCA
GTGCTACCAAATAAAGTGTGTCCAATCTCCATGGTGCTATAGTGGTTACACAACC
GTTACCGCCACCAACCTCTGCCCACCCAACCTGGTCTCAGGATTCGAACAATGGTG
GGTGGTGCAACCCTCCCCGAACCCATTTGACATGGCTAAGCCCCGCGTTCATGAA
AATTGCCCAATGGAAAGCTGGCATCGTCCCAGTCATGTACCGCAGGTGCATTTCT
ATTTGTTTAGCACCAAATGGTCAATTTGACCGATGAGTCTGACAAAATAACATTA
GGTTTTTTATATTATAAAAAAATGATTTGAATTTTCTTGTTTTTAGTCAAGAAATT
GTTTTAGCAAAAACAAAAGCTTCCACATATGTTTCTATCTCGTGCAATAGATTTCCA
TCTGACACATGATAATGGATGTGTTGTGCAGACGTTGAAATTTGTGGCGCGAAGT
ATGAAATGTGTTGCGCCACGGGACACTGACTGATTGATTATAAAATTTTATAAGC
CAAAGCAATTTTGTCAAATTCATTGAAGAAGATGGACATTTTGATGATTTTCCCTT
AGTAAAAAGCTTAAGTTTTTCAACAAGTAGTAACCTTTGATCAATATGTAACTT
AATTTGATTTTGGCTAACTACAAGCATTCTAACAAAATTTGGGTATTTTAGAGTTC
CATGCAATGGCATTAGGAAAGGTGGTTTGATCTTGGCTAACTACTAATATTCTAA
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AGCCCTATCCTTCAGGCTAACTTCACACACCACAAAACAGACCATTACGGCTTAC
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