

Abscisic acid 8'-hydroxylase 2 (CYP707A2), Recombinant Protein

Cat RP00078

Species

Arabidopsis thaliana (Mouse-ear cress)

Full Product Name

Recombinant Arabidopsis thaliana Abscisic acid 8'-hydroxylase 2 (CYP707A2)

Product Synonym Names

Recombinant Abscisic acid 8'-hydroxylase 2 (CYP707A2); Abscisic acid 8'-hydroxylase 2; ABA 8'-hydroxylase 2
EC= 1.14.13.93; Cytochrome P450 707A2

Product Gene Name

CYP707A2 recombinant protein

Product Synonym Gene Name

CYP707A2

Purity

Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)

Sequence

MQISSSSSSN FFSSLYADEP ALITLTIVVV VVLLFKWWL HWKEQLRLRP PGSMGLPYIG ETLRLYTENP
NSFFATRQNK YGDIFKTHIL GCPCVMISSP EAARMVLVSK AHLFKPTYPP SKERMIGPEA LFFHQGPYHS
TLKRLVQSSF MPSALRPTVS HIELLVLQTL SSWTSQKSIN TLEYMKRYAF DVAIMSAFGD KEEPTTIDVI
KLLYQRLERG YNSMPLDLPG TLFHKSMKAR IELSEELRKY IEKRRENGRE EGGLLGVLG AKDQKRNGLS
DSQIADNIIG VIFAATDTTA SVLTWLLKYL HDHPNLLQEV SREQFSIRQK IKKENRRISW EDTRKMPLTT
RVIQETLRAA SVLSFTFREA VQDVEYDGYL IPKGWKVLPL FRRIHHSSEF FPDPEKFDPS RFEVAPKPYT
YMPFGNGVHS CPGSELAKLE MLILLHLLTT SFRWEVIGDE EGIQYGPFV PPKGLPIRVT PI

Sequence Positions

1-482

Chromosome Location

Chromosome: 2; NC_003071.7 (12494851..12499723, complement). Location: chromosome: 2

Format

Lyophilized or liquid (Format to be determined during the manufacturing process)

Host

E Coli or Yeast or Baculovirus or Mammalian Cell

Molecular Weight

55,176 Da

Storage

Store at -20°C. For extended storage, store at -20 or -80°C.

Protein Family

Abcisic acid 8'-hydroxylase

NCBI Accession

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY

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NP_001189629.1

NCBI GI

334184553

NCBI GenBank Nucleotide

NM_001202700.1

NCBI GeneID

817457

NCBI Official Full Name

abscisic acid 8'-hydroxylase 2

NCBI Official Symbol

CYP707A2

NCBI Official Synonym Symbols

cytochrome P450; family 707; polypeptide 2; subfamily A; T9I4.17; T9I4_17

NCBI Protein Information

abscisic acid 8'-hydroxylase 2

NCBI Summary

Encodes a protein with ABA 8'-hydroxylase activity, involved in ABA catabolism. Member of the CYP707A gene family. This gene predominantly accumulates in dry seeds and is up-regulated immediately following imbibition. CYP707A2 appears to play a major role in the rapid decrease in ABA levels during early seed imbibition.

UniProt Gene Name

CYP707A2

UniProt Synonym Gene Names

ABA 8'-hydroxylase 2

UniProt Protein Name

Abscisic acid 8'-hydroxylase 2

UniProt Synonym Protein Names

Cytochrome P450 707A2

UniProt Entry Name

ABAH2_ARATH

UniProt Primary Accession

O81077

UniProt Related Accession

T02739

UniProt Comments

Function: Involved in the oxidative degradation of abscisic acid, but not in the isomerization of the produced

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8'-hydroxyabsciscic acid (8'-OH-ABA) to (-)-phaseic acid (PA). Involved in the control of seed dormancy and germination. Catalytic activity: $+ \text{-abscisate} + \text{NADPH} + \text{O}_2 = 8'\text{-hydroxyabscisate} + \text{NADP}^+ + \text{H}_2\text{O}$. Cofactor: Heme group By similarity. Pathway: Plant hormone degradation; absciscic acid degradation. Subcellular location: Membrane; Single-pass membrane protein Potential. Tissue specificity: Mainly expressed in dry seeds. Lower expression in rosette leaves, flowers, siliques and stems. Not expressed in roots. Expressed in both endosperm and vascular tissues of embryo during the seed development and in cortex and endodermis in germinating embryo. Developmental stage: Up-regulated from late-maturation to mature dry seed. Up-regulated immediately after seed imbibition, reaching a maximum at 6 hours and decreasing thereafter. Induction: By absciscic acid, dehydration and rehydration. Expression regulated by phytochrome B. Disruption phenotype: Plants show a hyperdormancy phenotype. Sequence similarities: Belongs to the cytochrome P450 family.

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