

Pattern formation protein EMB30 (EMB30), Recombinant Protein

Cat *RP05448*

Species

Arabidopsis thaliana (Mouse-ear cress)

Full Product Name

Recombinant *Arabidopsis thaliana* Pattern formation protein EMB30 (EMB30) , partial

Product Gene Name

EMB30 recombinant protein

Product Synonym Gene Name

EMB30

Purity

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

Format

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

Host

E Coli or Yeast or Baculovirus or Mammalian Cell

Molecular Weight

162,619 Da

Storage

Store at -20°C. For long-term storage, store at -20°C or -80°C. Store working aliquots at 4°C for up to one week. Repeated freezing and thawing is not recommended.

Protein Family

Metallothionein-like protein

NCBI Accession

NP_001184991.1

NCBI GI

334182567

NCBI GenBank Nucleotide

NM_001198062.1

NCBI GeneID

837958

NCBI Official Full Name

sec7 domain-containing protein

NCBI Official Symbol

GN

NCBI Official Synonym Symbols

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY

Pattern formation protein EMB30 (EMB30), Recombinant Protein

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EMB30; EMBRYO DEFECTIVE 30; F16A14.20; GNOM; VAN7; VASCULAR NETWORK 7

NCBI Protein Information

sec7 domain-containing protein

NCBI Summary

Encodes a GDP/GTP exchange factor for small G-proteins of the ADP ribosylation factor (RAF) class, and as regulator of intracellular trafficking. Homologous to Sec7p and YEC2 from yeast. Involved in the specification of apical-basal pattern formation. Essential for cell division, expansion and adhesion. It appears that heteotypic binding between the DCB and C-terminal domains of two GNOM proteins is required for membrane association, however, GNOM appears to exist predominantly as a heterodimer formed through DCB-DCB interactions.

UniProt Gene Name

GN

UniProt Synonym Gene Names

EMB30; GBF3; MIZ2; VAN7

UniProt Protein Name

ARF guanine-nucleotide exchange factor GNOM

UniProt Synonym Protein Names

Pattern formation protein EMB30; Protein EMBRYO DEFECTIVE 30; Protein MIZU-KUSSEI2; Protein VASCULAR NETWORK 7

UniProt Primary Accession

Q42510

UniProt Secondary Accession

Q38883; Q56ZY3

UniProt Related Accession

Q42510

UniProt Comments

Activates the ARF proteins by exchanging bound GDP for free GTP. Plays a role in vesicular protein sorting. Acts as the major regulator of endosomal vesicle trafficking but is also involved in the endocytosis process. Could function redundantly with GNL1 in the retrograde Golgi to endoplasmic reticulum trafficking. Regulates vesicle trafficking required for the coordinated polar localization of auxin efflux carriers which in turn determines the direction of auxin flow. Mediates the sorting of PIN1 from endosomal compartments to the basal plasma membrane and the polarization of PIN3 to the bottom side of hypocotyl endodermal cells. Involved in the specification of apical-basal pattern formation in the early embryo and during root formation. Required for correct cell wall organization leading to normal cell adhesion during seedling development. Plays also an essential role in hydrotropism of seedling roots.

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