

Histone-lysine N-methyltransferase MEDEA (MEA), Recombinant Protein

Cat *RP00278*

Species

Arabidopsis thaliana (Mouse-ear cress)

Full Product Name

Recombinant *Arabidopsis thaliana* Histone-lysine N-methyltransferase MEDEA (MEA) , partial

Product Gene Name

MEA recombinant protein

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

79,310 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

Histone-lysine N-methyltransferase

NCBI Accession

NP_563658.1

NCBI GI

18378985

NCBI GenBank Nucleotide

NM_100139.4

NCBI GenelD

839422

NCBI Official Full Name

SET domain-containing protein

NCBI Official Symbol

MEA

NCBI Official Synonym Symbols

EMB173; EMBRYO DEFECTIVE 173; FERTILIZATION INDEPENDENT SEED 1; FIS1; MEDEA; SDG5; SET

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY

Histone-lysine N-methyltransferase MEDEA (MEA), Recombinant Protein

Cat *RP00278*

DOMAIN-CONTAINING PROTEIN 5; T14P4.11; T14P4_11

NCBI Protein Information

SET domain-containing protein

NCBI Summary

Encodes a putative transcription factor MEDEA (MEA) that negatively regulates seed development in the absence of fertilization. Mutations in this locus result in embryo lethality. MEA is a Polycomb group gene that is imprinted in the endosperm. The maternal allele is expressed and the paternal allele is silent. MEA is controlled by DEMETER (DME), a DNA glycosylase required to activate MEA expression, and METHYLTRANSFERASE I (MET1), which maintains CG methylation at the MEA locus. MEA is involved in the negative regulation of its own imprinted gene expression; the effect is not only allele-specific but also dynamically regulated during seed development. In the ovule, the MEA transcripts are accumulated at their highest level before fertilization and gradually decrease after fertilization

UniProt Gene Name

MEA

UniProt Synonym Gene Names

EMB173; FIS1; MEDEA; SDG5; SET5

UniProt Protein Name

Histone-lysine N-methyltransferase MEDEA

UniProt Synonym Protein Names

Maternal embryogenesis control protein; Protein EMBRYO DEFECTIVE 173; Protein FERTILIZATION-INDEPENDENT SEED 1; Protein SET DOMAIN GROUP 5

UniProt Primary Accession

O65312

UniProt Related Accession

O65312

UniProt Comments

Polycomb group (PcG) protein. Catalytic subunit of some PcG multiprotein complex, which methylates 'Lys-27' of histone H3, leading to transcriptional repression of the affected target genes. Required to prevent the proliferation of the central cell of the female gametophyte by repressing target genes before fertilization. After fertilization, it probably also regulates the embryo and endosperm proliferation and anteroposterior organization during seed development. PcG proteins act by forming multiprotein complexes, which are required to maintain the transcriptionally repressive state of homeotic genes throughout development. PcG proteins are not required to initiate repression, but to maintain it during later stages of development. Interacts with the promoter and repress the transcription of genes such as PHE1 and PHE2, that are paternally active and maternally silenced genes.

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