

DNA-directed RNA polymerase D subunit 1 (NRPD1), Recombinant Protein

Cat *RP04122*

Species

Arabidopsis thaliana (Mouse-ear cress)

Full Product Name

Recombinant *Arabidopsis thaliana* DNA-directed RNA polymerase D subunit 1 (NRPD1) , partial

Product Gene Name

NRPD1 recombinant protein

Product Synonym Gene Name

NRPD1

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

162,521 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

DNA-directed RNA polymerase

NCBI Accession

NP_001185298.1

NCBI GI

334183598

NCBI GenBank Nucleotide

NM_001198369.1

NCBI GeneID

842605

NCBI Official Full Name

nuclear RNA polymerase D1A

NCBI Official Symbol

NRPD1A

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY

DNA-directed RNA polymerase D subunit 1 (NRPD1), Recombinant Protein

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NCBI Official Synonym Symbols

F16P17.19; F16P17_19; NRPD1; NUCLEAR RNA POLYMERASE D 1A; nuclear RNA polymerase D1A; POL IVA; SDE4; SILENCING MOVEMENT DEFICIENT 2; SMD2

NCBI Protein Information

nuclear RNA polymerase D1A

NCBI Summary

Encodes one of two alternative largest subunits of a putative plant-specific RNA polymerase IV (aka RNA polymerase D). Required for posttranscriptional gene silencing.

UniProt Gene Name

NRPD1

UniProt Synonym Gene Names

NRPD1a; RMD3; RPD1; SDE4; SMD2; AtNRPD1a; Nuclear RNA polymerase D 1a; POL IV 1a

UniProt Protein Name

DNA-directed RNA polymerase IV subunit 1

UniProt Synonym Protein Names

DNA-directed RNA polymerase D subunit 1 (EC:2.7.7.6); AtNRPD1a; Nuclear RNA polymerase D 1a; Protein RNA-DIRECTED DNA METHYLATION DEFECTIVE 3; Protein SILENCING DEFECTIVE 4; Protein SILENCING MOVEMENT DEFICIENT 2; RNA polymerase IV subunit 1a; POL IV 1a

UniProt Primary Accession

Q9LQ02

UniProt Related Accession

Q9LQ02

UniProt Comments

DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. Largest and catalytic component of RNA polymerase IV which mediates 24-nt short-interfering RNAs (siRNA) accumulation. Implicated in siRNA-directed heterochromatin formation through the action of DCL3 and AGO4, and subsequent DNA methylation-dependent silencing of targeted sequences. Essential component of a self-reinforcing loop coupling de novo DNA methylation to siRNA production. Required for intercellular but not intracellular RNA interference (RNAi) leading to systemic post-transcriptional gene silencing. Involved in the maintenance of post-transcriptional RNA silencing.

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