Nonribosomal Peptide Synthetase 14 (NRPS14), Partial (NRPS14) Neosartorya Fumigata Recombinant Protein

PRODUCT OVERVIEW

Product Name	Nonribosomal peptide synthetase 14 (NRPS14), partial, Recombinant Protein
Full Product Name	Recombinant Neosartorya fumigata Nonribosomal peptide synthetase 14 (NRPS14), partial
Product Gene Name	NRPS14 recombinant protein
Product Synonym Gene Name	NRPS14; pesO; AFUA_8G00540
Product Synonym Names	Nonribosomal peptide synthetase 14; EC=6.3.2.-
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	435,726 Da
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q4WAZ9
Species	Neosartorya fumigata (strain MYA-4609 / Af293 / CBS 101355 / FGSC A1100) (Aspergillus fumigatus)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for NRPS14 recombinant protein	MBS1325107 is a recombinant protein targeting NRPS14. Also known as Recombinant Neosartorya fumigata Nonribosomal peptide synthetase 14 (NRPS14), partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of NRPS14 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for NRPS14. It may not necessarily be applicable to this product.

NCBI GI #	146324637
NCBI GeneID	3504510
NCBI Accession #	XP_747151.2
UniProt Primary Accession #	Q4WAZ9
UniProt Related Accession #	Q4WAZ9
GenBank Nucleotide #	XM_742058.2
NCBI Official Full Name	hybrid PKS-NRPS enzyme

NCBI Official Symbol	AFUA_8G00540
UniProt Protein Name	Nonribosomal peptide synthetase 14
Protein Family	PKS-NRPS hybrid synthetase
UniProt Gene Name	NRPS14
UniProt Synonym Gene Names	pesO
UniProt Entry Name	NRP14_ASPFU
NCBI Protein Information	hybrid PKS-NRPS enzyme
UniProt Comments for NRPS14	PKS-NRPS hybrid synthetase; part of the gene cluster that mediates the biosynthesis of pseurotin A, a competitive inhibitor of chitin synthase and an inducer of nerve-cell proliferation (PubMed:17722120, PubMed:17464044, PubMed:24082142, PubMed:24939566). The PKS-NRPS hybrid synthetase psoA is responsible for the biosynthesis of azaspirene, one of the first intermediates having the 1-oxa-7-azaspiro[4,4]-non-2-ene-4,6-dione core of pseurotin, via condensation of one acetyl-CoA, 4 malonyl-CoA, and a L-phenylalanine molecule (PubMed:24082142, PubMed:24939566). The dual-functional monooxygenase/methyltransferase psoF seems to be involved in the addition of the C3 methyl group onto the pseurotin scaffold (PubMed:24939566). Azaspirene is then converted to synerazol through 4 steps including oxidation of C17 by the cytochrome P450 monooxygenase psoD, O-methylation of the hydroxy group of C8 by the methyltransferase psoC, and the trans-to-cis isomerization of the C13 olefin by the glutathione S-transferase psoE (PubMed:24939566). The fourth step of synerazol production is performed by the dual-functional monooxygenase/methyltransferase psoF which seems to catalyze the epoxidation of the intermediate deepoxy-synerazol (PubMed:24939566). Synerazol can be attacked by a water molecule nonenzymatically at two different positions to yield two diol products, pseurotin A and pseurotin D (PubMed:24939566).
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