

Pertussis toxin subunit 1 Recombinant Protein | ptxA recombinant protein

Recombinant Bordetella pertussis Pertussis toxin subunit 1

CATALOG # AAA114956	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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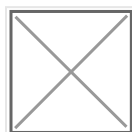
PRODUCT SYNONYMS

Pertussis toxin subunit 1; Recombinant Bordetella pertussis Pertussis toxin subunit 1; Islet-activating protein S1; IAP S1; NAD-dependent ADP-ribosyltransferase (EC:2.4.2.-); ptxA recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	35-269. Full Length of Mature Protein
Sequence	DDPPATVYRY DSRPPEDVFQ NGFTAWGNND NVLDHLTGRS CQVGSSNSAF VSTSSSRRYT EVYLEHRMQE AVEAERAGRG TGHFIGIYE VRADNNFYGA ASSYFEYVDT YGDNAGRILA GALATYQSEY LAHRRIPPEN IRRVTRVYHN GITGETTTTE YSNARYVSQQ TRANPNPYTS RRSVASIVGT LVRMAPVIGA CMARQAESSE AMAAWSERAG EAMVLVYYES IAYSF
Sequence Length	269
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for ptxA recombinant protein	S1 is an NAD-dependent ADP-ribosyltransferase, which plays a crucial role in the pathogenesis of B. pertussis causing disruption of normal host cellular regulation. It catalyzes the ADP-ribosylation of a cysteine in the alpha subunit of host heterotrimeric G proteins. In the absence of G proteins it also catalyzes the cleavage of NAD ⁺ into ADP-ribose and nicotinamide. It irreversibly uncouples the G-alpha GTP-binding proteins from their membrane receptors.
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References

Cloning and sequencing of the pertussis toxin genes operon structure and gene duplication.Nicosia A., Perugini M., Franzini C., Casagli M.C., Borri M.G., Antoni G., Almoni M., Neri P., Ratti G., Rappuoli R.Proc. Natl. Acad. Sci. U.S.A. 83:4631-4635(1986) Pertussis toxin gene nucleotide sequence and genetic organization.Locht C., Keith J.M.Science 232:1258-1264(1986) A unique sequence of the Bordetella pertussis toxin operon.Loosmore S.M., Cunningham J.D., Bradley W.R., Yao E.L., Dekaban G.A., Klein M.H.Nucleic Acids Res. 17:8365-8365(1989) Polymorphism in the Bordetella pertussis virulence factors P.69/pertactin and pertussis toxin in The Netherlands temporal trends and evidence for vaccine-driven evolution.Mooi F.R., van Oirschot H., Heuvelman K., van der Heide H.G., Gaastra W., Willems R.J.Infect. Immun. 66:670-675(1998) Intranasal murine model of Bordetella pertussis infection II. Sequence variation and protection induced by a tricomponent acellular vaccine.Boursaux-Eude C., Thiberge S., Carletti G., Guiso N.Vaccine 17:2651-2660(1999) Temporal trends in circulating Bordetella pertussis strains in Australia.Poynten M., McIntyre P.B., Mooi F.R., Heuvelman G.L., Gilbert G.L.Epidemiol. Infect. 132:185-193(2004) Wang Y., Zhang S., Lei D. Bordetella pertussis toxin gene encoding subunit S1.Mallya A.D., Kumar M., Reddy M.N., Seshubabu B., Deobagkar D.D., Kapre S.V. Comparative analysis of the genome sequences of Bordetella pertussis, Bordetella parapertussis and Bordetella bronchiseptica.Parkhill J., Sebahia M., Preston A., Murphy L.D., Thomson N.R., Harris D.E., Holden M.T.G., Churcher C.M., Bentley S.D., Mungall K.L., Cerdeno-Tarraga A.-M., Temple L., James K.D., Harris B., Quail M.A., Achtman M., Atkin R., Baker S., Basham D., Bason N., Cherevach I., Chillingworth T., Collins M., Cronin A., Davis P., Doggett J., Feltwell T., Goble A., Hamlin N., Hauser H., Holroyd S., Jagels K., Leather S., Moule S., Norberczak H., O'Neil S., Ormond D., Price C., Rabbिनowitsch E., Rutter S., Sanders M., Saunders D., Seeger K., Sharp S., Simmonds M., Skelton J., Squares R., Squares S., Stevens K., Unwin L., Whitehead S., Barrell B.G., Maskell D.J.Nat. Genet. 35:32-40(2003) Identification of a region in the S1 subunit of pertussis toxin that is required for enzymatic activity and that contributes to the formation of a neutralizing antigenic determinant.Cieplak W., Burnette W.N., Mar V.L., Kaljot K.T., Morris C.F., Chen K.K., Sato H., Keith J.M.Proc. Natl. Acad. Sci. U.S.A. 85:4667-4671(1988) Identification of an active-site residue in subunit S1 of pertussis toxin by photocrosslinking to NAD.Cockle S.A.FEBS Lett. 249:329-332(1989) Role of tryptophan 26 in the NAD glycohydrolase reaction of the S-1 subunit of pertussis toxin.Cortina G., Barbieri J.T.J. Biol. Chem. 264:17322-17328(1989) Further analysis of the sequence of the S1 subunit of pertussis toxin.Pizza M., Bugnoli M., Puccini P., Siciliano R., Marino G., Rappuoli R.Infect. Immun. 59:1177-1179(1991) A proposed mechanism of ADP-ribosylation catalyzed by the pertussis toxin S1 subunit.Locht C., Antoine R.Biochimie 77:333-340(1995) Synergistic binding of RNA polymerase and BvgA phosphate to the pertussis toxin promoter of Bordetella pertussis.Boucher P.E., Stibitz S.J. Bacteriol. 177:6486-6491(1995) Mutations in the S1 subunit of pertussis toxin that affect secretion.Craig-Mylius K.A., Stenson T.H., Weiss A.A.Infect. Immun. 68:1276-1281(2000) Membrane localization of the S1 subunit of pertussis toxin in Bordetella pertussis and implications for pertussis toxin secretion.Farizo K.M., Fiddner S., Cheung A.M., Burns D.L.Infect. Immun. 70:1193-1201(2002) DsbA and DsbC are required for secretion of pertussis toxin by Bordetella pertussis.Stenson T.H., Weiss A.A.Infect. Immun. 70:2297-2303(2002) Temporal expression of pertussis toxin and Ptl secretion proteins by Bordetella pertussis.Rambow-Larsen A.A., Weiss A.A.J. Bacteriol. 186:43-50(2004) The crystal structure of pertussis toxin.Stein P.E., Boodhoo A., Armstrong G.D., Cockle S.A., Klein M.H., Read R.J.Structure 2:45-57(1994) Crystal structure of the pertussis toxin-ATP complex a molecular sensor.Hazes B., Boodhoo A., Cockle S.A., Read R.J.J. Mol. Biol. 258:661-671(1996)

NCBI AND UNIPROT INFORMATION

NCBI GI #	33594638
NCBI GeneID	2665068
NCBI Accession #	NP_882282.1
NCBI GenBank Nucleotide #	NC_002929.2
UniProt Accession #	P04977; O69258; O70057; Q599G4; Q5EIB9; Q93V22
Molecular Weight	28.2 kDa
NCBI Official Full Name	pertussis toxin subunit 1
NCBI Official Symbol	ptxA
NCBI Protein Information	pertussis toxin subunit 1
UniProt Protein Name	Pertussis toxin subunit 1
UniProt Gene Name	ptxA
UniProt Synonym Gene Names	PTX S1; IAP S1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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