

PPH347 PODS[®] Human CDNF

Description

The product contains the polyhedrin protein co-crystallized with Human CDNF. Cerebral Dopamine Neurotrophic Factor (CDNF) and MANF (mesencephalic-astrocyte-derived neurotrophic factor) are structural homologues and share 62% amino acid (aa) identity. Furthermore, CDNF is highly conserved across species. It shares 80%, 84%, 90% and 92% aa identity with mouse, rat, equine and bovine CDNF, respectively. Like MANF and GDNF, CDNF is expressed in brain, neuronal and certain non-neuronal tissues. It has been shown to promote survival, growth and function of dopamine-specific neurons (DNs) in vitro. Additionally, in rat Parkinson's disease models that rely on 6-hydroxydopamine (6-OHDA)-induced degeneration of DN, CDNF can also promote rescue and restoration of DN in the substantia nigra in vivo.

Length	209 aa
Molecular Weight	23.7 kDa
Source	<i>Spodoptera frugiperda (Sf9) cell culture</i>
Accession Number	Q49AH0

Usage Recommendation

PODS[®] co-crystals provide a depot of proteins which are steadily secreted. It has been estimated that the biological activity of 50 million PODS[®] co-crystals generates the same peak dose as 3.3 µg of standard recombinant protein. However, at 5 days following the start of seeding the PODS[®] co-crystals, there are more than 50% of these peak levels still present in the culture system. Ultimately, the amount of PODS[®] co-crystals that is optimal for a particular experiment should be determined empirically. Based on previous data, we suggest using 50 million PODS[®] co-crystals in place of 3.3 µg of standard growth factor as a starting point. To control for cross-reactivity with cells or as a negative control, we recommend using PODS[®] growth factors alongside PODS[®] Empty crystals, as the latter do not contain or release cargo protein.

Specifications

Alternative Names	Cerebral Dopamine Neurotrophic Factor, Conserved Dopamine Neurotrophic Factor, Arginine-Rich, Mutated In Early Stage Tumors-Like 1, ARMET-Like Protein 1, ARMETL1
Endotoxin Level	<0.06 EU/ml as measured by gel clot LAL assay
Formulation	PODS [®] were lyophilized from a volatile solution
AA Sequence	MADVAGTSNR DFRGREQRLF NSEQYNNNS KNSRPSTSLY KKAGFQGQEA GGRPGADCEV CKEFLNRFYK SLIDRGVNFS LDTIEKELIS FCLDTKGKEN RLCYYLGATK DAATKILSEV TRPMSVHMPA MKICEKLLKL DSQICELKYE KTLDLASVDL RKMRVAELKQ ILHSWGEECR ACAECTDYVN LIQELAPKYA ATHPKTEL

Preparation and Storage

Reconstitution	PODS [®] co-crystals may be reconstituted at 200 million co-crystals/ml in water. 20% glucose has a buoyant density closer to PODS [®] co-crystals and can be useful for aliquoting. PODS [®] co-crystals are highly stable when stored in aqueous solution (pH range 6 - 8).
Stability and Storage	Upon receipt, store at 4°C. PODS [®] co-crystals are stable for at least 1 year when dry and 6 months when resuspended.