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**Product Data Sheet**


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Product Name: Dopa Decarboxylase Human

Cat. No.: GP21568

Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	DDC; AADC; Aromatic-L-amino-acid decarboxylase; DOPA decarboxylase.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH TRSMNASEFR RRGKEMVDYV ANYMEGIEGR QVYPDVEPGY LRPLIPAAAP QEPDTFEDII NDVEKIIMPG VTHWHSPYFF AYFPTASSYP AMLADMLCGA IGCIGFSWAA SPACTELETV MMDWLGKMLE LPKAFLNEKA GEGGGVIQGS ASEATLVALL AARTKVIHRL QAASPELTQA AIMEKLVAYS SDQAHSSVER AGLIGGVKLLK AIPSDGNFAM RASALQEALE RDKAAGLIPF FMVATLGT TT CCSFDNLLEV GPICNKEDIW LHVDAAYAGS AFICPEFRHL LNGVEFADSF NFNPHKLLV NFDCSAMWVK KRTDLTGAFR LDPTYLKHS QDSGLITDYR HWQIPLGRRF RSLKMWFVFR MYGVKGLQAY IRKHVQLSHE FESLVRQDPR FEICVEVILG LVCFRLKGSN KVNEALLQRI NSAKKIHLVP CHLRDKFVLR FAICSRVES AHVQRAWHEHI KELAADVLR ERE.		
Formulation	The Dopa decarboxylase protein solution (1mg/ml) contains 20mM Tris-HCl, pH-8, 2mM DTT and 10% glycerol.		

**Introduction**

Dopa decarboxylase is a homodimeric, pyridoxal phosphate dependent enzyme. Dopa decarboxylase is involved in 2 metabolic pathways, synthesizing 2 significant neurotransmitters that take part in numerous clinical disorders, including Parkinson's disease. Dopa decarboxylase is located in different areas of the brain and is mostly found in basal ganglia. Dopa decarboxylase catalyzes the decarboxylation of L-3,4-dihydroxyphenylalanine (DOPA) to dopa, L-5-hydroxytryptophan to serotonin and L-tryptophan to tryptamine. Defects in Dopa decarboxylase leads to aromatic L-amino-acid decarboxylase deficiency (AADCD). AADCD deficiency is an inborn error in neurotransmitter metabolism that causes combined serotonin and catecholamine deficiency.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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### Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

Dopa decarboxylase human recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 503 amino acids (1-480 a.a.) and having a molecular mass of 56.4 kDa. The Dopa decarboxylase is fused to a 23 amino acid His Tag at N-terminus and purified by conventional chromatography.

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