



# Recombinant Protein Technical Manual

## Recombinant Human DOPA Decarboxylase/DDC Protein (His Tag)(Active)

RPES3001

### Product Data:

**Product SKU:** RPES3001

**Size:** 20 $\mu$ g

**Species:** Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** NP\_000781.1

### Protein Information:

**Molecular Mass:** 55 kDa

**AP Molecular Mass:** 48 kDa

**Tag:** C-His

**Bio-activity:** Measured by its ability to convert the substrate 3, 4-dihydroxy L-phenylalanine (L-Dopa) to 3, 4-dihydroxyphenylethylamine (dopamine). The dopamine product is measured by its absorbance at 340 nm after derivatization with trinitrobenzene sulfonic acid. The specific activity is >1000 pmoles/min/ $\mu$ g.

**Purity:** > 90 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per  $\mu$ g as determined by the LAL method.

**Storage:** Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.

**Shipping:** This product is provided as liquid. It is shipped at frozen temperature with blue ice/gel packs. Upon receipt, store it immediately at < -20°C.

**Formulation:** Supplied as sterile 50mM Tris, 100mM NaCl, pH 8, 10% glycerol

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** AADC

## Immunogen Information:

**Sequence:** Met 1-Glu 480

## Background:

Dopa Decarboxylase (DDC), also known as AADC and Aromatic-L-amino acid decarboxylase, is a 54 kDa member of the group II decarboxylase family of proteins. It is a vitamin B6-dependent homodimeric enzyme that catalyzes the decarboxylation of both L-3,4-dihydroxyphenylalanine (L-DOPA) and L-5-hydroxytryptophan to dopamine and serotonin, respectively, which are major mammalian neurotransmitters and hormones belonging to catecholamines and indoleamines. Since L-DOPA is regularly used to treat the symptoms of Parkinson's disease, the catalytic pathway is of particular research interest. Defects of DDC are associated with severe developmental delay, oculogyric crises (OGC), as well as autosomal recessive disorder AADC deficiency, an early onset inborn error in neurotransmitter metabolism which can lead to catecholamine and serotonin deficiency.