Data Sheet (Cat.No.TMPY-02472)

TargetMol

DOPA Decarboxylase/DDC Protein, Mouse, Recombinant (His)

General Information

Synonyms: Aadc;dopa decarboxylase (aromatic L-amino acid decarboxylase)

Protein Construction: Met1-Glu480

Species: Mouse

Expression Host: Baculovirus Insect Cells

Accession: O88533

Molecular Weight: 55.40 kDa (predicted); 55.40 kDa (reducing conditions)

QC Testing

Biological 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 >1500 pmol/min/μg. (QC Test)

Purity: > 95% as determined by Bis-Tris PAGE; > 95% as determined by HPLC

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Supplied as 0.22 μm filtered solution in 20mM Tris, 0.3M NaCl, 10% Glycerol (pH 8.0).

Preparation and Storage

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein 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.

Reference

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