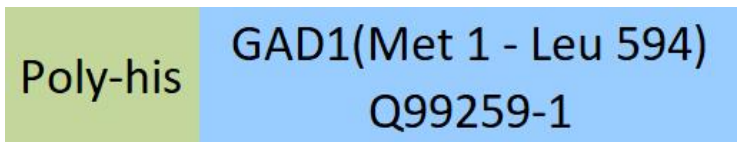
Synonym

GAD1, GAD67, Glutamate decarboxylase 1

Source

Human GAD1, His Tag(GA1-H5543) is expressed from Baculovirus-Insect cells. It contains AA Met 1 - Leu 594 (Accession # Q99259-1).
Predicted N-terminus: Met 1

Molecular Characterization



This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 68.8 kDa. The protein migrates as 60-65 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>85% as determined by SDS-PAGE.

Formulation

Supplied as 0.2 μm filtered solution in 20 mM Tris, 500 mM Nacl, pH8.5 with glycerol as protectant.

Contact us for customized product form or formulation.

Shipping

This product is supplied and shipped with dry ice, please inquire the shipping cost.

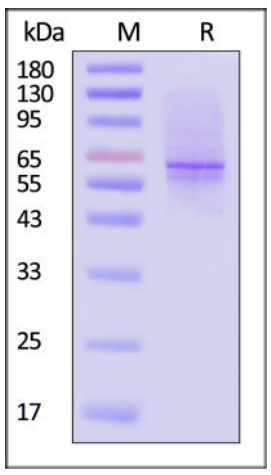
Storage

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

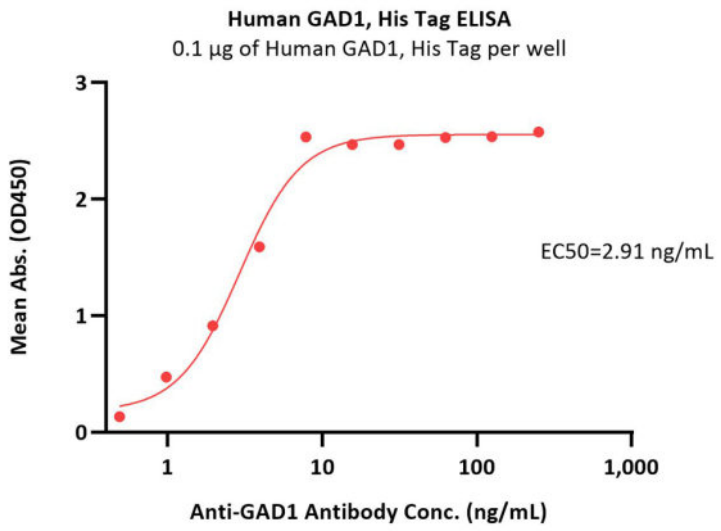
- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

SDS-PAGE



Human GAD1, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 85% (With Star Ribbon Pre-stained Protein Marker).

Bioactivity-ELISA



Immobilized Human GAD1, His Tag (Cat. No. GA1-H5543) at 1 μg/mL (100 μL/well) can bind Anti-GAD1 Antibody with a linear range of 1-8 ng/mL (QC tested).

Background

Glutamate decarboxylase or glutamic acid decarboxylase (GAD) is an enzyme that catalyzes the decarboxylation of glutamate to gamma-aminobutyric acid (GABA), the major inhibitory transmitter in higher brain regions, and putative paracrine hormone in pancreatic islets. GAD uses pyridoxal-phosphate (PLP) as a cofactor.Two molecular forms of GAD (65 kDa and 67 kDa) are highly conserved and both are expressed in the CNS, pancreatic islet cells, testis, oviduct and ovary. The isoforms are regionally distributed cytoplasmically in the brains of rats and mice. GAD65 is an ampiphilic, membrane-anchored protein (585 a.a.), and is responsible for vesicular GABA production. GAD67 is cytoplasmic (594 a.a.), and seems to be responsible for significant cytoplasmic GABA production.