

Recombinant Human glutamate decarboxylase 1 (brain, 67kDa), His-tagged

Cat. No. GAD1-615H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	GAD1-iso1, 1-594aa, Human, His tag, E.coli
Species	Human
Source	E.coli
ProteinLength	1-594 a.a.
Description	This gene encodes one of several forms of glutamic acid decarboxylase, identified as a major autoantigen in insulin-dependent diabetes. The enzyme encoded is responsible for catalyzing the production of gamma-aminobutyric acid from L-glutamic acid. A pathogenic role for this enzyme has been identified in the human pancreas since it has been identified as an autoantigen and an autoreactive T cell target in insulin-dependent diabetes. This protein may also play a role in the stiff man syndrome. Deficiency in this enzyme has been shown to lead to pyridoxine dependency with seizures. Recombinant human GAD1 protein, fused to His-tag at N-terminus, was expressed in E.coli.
Form	Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 10% glycerol
Molecular Mass	69.3 kDa (617aa)
AA Sequence	MGSSHHHHHH SSGLVPRGSH MGSMASSTPS SSATSSNAGA DPNTTNLRPT TYDTWCGVAH GCTRKLGLKI CGFLQRTNSL EEKSRLVSAF KERQSSKNLL

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SCENSDRDAR FRRTEIDFSN LFARDLLPAK NGEEQTVQFL LEVVDILLNY
VRKTFDRSTK VLDFHHPHQL LEGMEGFNLE LSDHPESLEQ ILVDCRDTLK
YGVRTGHPRF FNQLSTGLDI IGLAGEWLTS TANTNMFTYE IAPVFLMEQ
ITLKKMREIV GWSSKDGDGI FSPGGAISNM YSIMAARYKY FPEVKTKGMA
AVPKLVLFST EQSHYSIKKA GAALGFGTDN VILIKCNERG KIIPADFEAK
ILEAKQKGYV PFYVNATAGT TVYGAFDPIQ EIADICEKYN LWLHVDAAWG
GGLMSRKHR HKLNGIERAN SVTWNPHKMM GVLLQCSAIL VKEKGILQGC
NQMCAGYLFQ PDKQYDVSVD TGDKAIQCGR HVDIFKFWLM WKAKGTVGFE
NQINKCLELA EYLYAKIKNR EEFEMVFNGE PEHTNVCFWY IPQSLRGVPD
SPQRREKLHK VAPKIKALMM ESGTTMVGYY PQGDKANFFR MVISNPAATQ
SDIDFLIEEI ERLGQDL

Purity >80% by SDS - PAGE

Storage Can be stored at +4C short term (1-2 weeks). For long term storage, aliquot and store at -20C or -70C. Avoid repeated freezing and thawing cycles.

Concentration 0.5 mg/ml (determined by Bradford assay)

GENE INFORMATION

Gene Name **GAD1 glutamate decarboxylase 1 (brain, 67kDa) [Homo sapiens]**

Official Symbol GAD1

Synonyms GAD1; glutamate decarboxylase 1 (brain, 67kDa); GAD, glutamate decarboxylase 1 (brain, 67kD); glutamate decarboxylase 1; GAD-67; 67 kDa glutamic acid decarboxylase; glutamate decarboxylase 67 kDa isoform; GAD; SCP; CPSQ1; FLJ45882;

Gene ID **2571**

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mRNA Refseq	NM_000817
Protein Refseq	NP_000808
MIM	605363
UniProt ID	Q99259
Chromosome Location	2q31
Pathway	Alanine and aspartate metabolism, organism-specific biosystem; Alanine, aspartate and glutamate metabolism, organism-specific biosystem; Alanine, aspartate and glutamate metabolism, conserved biosystem; Biogenic Amine Synthesis, organism-specific biosystem; Butanoate metabolism, organism-specific biosystem; Butanoate metabolism, conserved biosystem; GABA (gamma-Aminobutyrate) shunt, organism-specific biosystem;
Function	carboxy-lyase activity; glutamate decarboxylase activity; lyase activity; protein binding; pyridoxal phosphate binding;