Recombinant Human GAD1

Cat. No. GAD1-26511TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human GAD1 protein with a N terminal proprietary tag: predicted molecular weight 91.08 kDa.
Species	Human
Source	Wheat Germ
ProteinLength	594 amino acids
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 gene may also play a role in the stiff man syndrome. Deficiency in this enzyme has been shown to lead to pyridoxine dependency with seizures. Alternative splicing of this gene results in two products, the predominant 67-kD form and a less-frequent 25-kD form.
Molecular Weight	91.080kDa inclusive of tags
Tissue specificity	Isoform 3 is expressed in pancreatic islets, testis, adrenal cortex, and perhaps other endocrine tissues, but not in brain.
Form	Liquid

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Purity	Proprietary Purification
Storage buffer	pH: 8.00Constituents:0.3% Glutathione, 0.79% Tris HCl
Storage	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.
Sequences of amino acids	MASSTPSSSATSSNAGADPNTTNLRPTTYDTWCGVAHGCT RKLGLKICGFLQRTN SLEEKSRLVSAFKERQSSKNLLSCE NSDRDARFRRTETDFSNLFARDLLPAKNGEE QTVQFLLEV VDILLNYVRKTFDRSTKVLDFHHPHQLLEGMEGFNLELSD HPESLEQI LVDCRDTLKYGVRTGHPRFFNQLSTGLDIIGL AGEWLTSTANTNMFTYEIAPVFVLM EQITLKKMREIVGWS SKDGDGIFSPGGAISNMYSIMAARYKYFPEVKTKGMAAVP K LVLFTSEQSHYSIKKAGAALGFGTDNVILIKCNERGKII PADFEAKILEAKQKGYVPFY VNATAGTTVYGAFDPIQEIA DICEKYNLWLHVDAAWGGGLLMSRKHRHKLNGIERA NSVT WNPHKMMGVLLQCSAILVKEKGILQGCNQMCAGYLFQPDK QYDVSYDTGD KAIQCGRHVDIFKFWLMWKAKGTVGFENQI NKCLELAEYLYAKIKNREEFEMVFNG EPEHTNVCFWYIPQ SLRGVPDSPQRREKLHKVAPKIKALMMESGTTMVGYQPQG DKANFFRMVISNPAATQSDIDFLIEEIERLGQDL
Sequence Similarities	Belongs to the group II decarboxylase family.

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;

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Gene ID	2571
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;
Function	carboxy-lyase activity; glutamate decarboxylase activity; lyase activity; protein binding; pyridoxal phosphate binding;

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