

## Recombinant Human GAD1, His-tagged

Cat. No. GAD1-13106H    Lot. No. (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <b>Product Overview</b> | Recombinant Human GAD1 protein, fused to His-tag, was expressed in E.coli and purified by Ni-sepharose.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>ProteinLength</b>    | 1-224a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Description</b>      | <p>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.</p> |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Tag</b>              | His                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|                            |                                                                                                                                                                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage</b>             | The protein is stored in PBS buffer at -20°C. Avoid repeated freezing and thawing cycles.                                                                                                                                               |
| <b>Storage Buffer</b>      | 1M PBS (58mM Na <sub>2</sub> HPO <sub>4</sub> , 17mM NaH <sub>2</sub> PO <sub>4</sub> , 68mM NaCl, pH8. ) added with 300mM Imidazole and 0.7% Sarcosyl, 15% glycerol.                                                                   |
| <b>GENE INFORMATION</b>    |                                                                                                                                                                                                                                         |
| <b>Gene Name</b>           | <a href="#">GAD1 glutamate decarboxylase 1 (brain, 67kDa) [ Homo sapiens ]</a>                                                                                                                                                          |
| <b>Official Symbol</b>     | GAD1                                                                                                                                                                                                                                    |
| <b>Synonyms</b>            | 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; |
| <b>Gene ID</b>             | <a href="#">2571</a>                                                                                                                                                                                                                    |
| <b>mRNA Refseq</b>         | <a href="#">NM_000817</a>                                                                                                                                                                                                               |
| <b>Protein Refseq</b>      | <a href="#">NP_000808</a>                                                                                                                                                                                                               |
| <b>MIM</b>                 | <a href="#">605363</a>                                                                                                                                                                                                                  |
| <b>UniProt ID</b>          | <a href="#">Q99259</a>                                                                                                                                                                                                                  |
| <b>Chromosome Location</b> | 2q31                                                                                                                                                                                                                                    |
| <b>Pathway</b>             | Alanine and aspartate metabolism, organism-specific biosystem; Alanine, aspartate                                                                                                                                                       |

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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;

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