

## Recombinant Human INS therapeutic protein(Insulin glulisine)

**Cat. No.** Insulin-P061H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant Human Insulin therapeutic protein is a biosynthetic, rapid-acting human insulin analogue produced in a non-pathogenic laboratory strain of <i>Escherichia coli</i> (K12). This recombinant hormone differs from native human insulin in that the amino acid arginine at position B3 is replaced by lysine and the lysine at position B29 is replaced by glutamic acid. These structural modifications decrease hexamer formation, stabilize insulin glulisine monomers and increase the rate of absorption and onset of action compared to human insulin. |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Description</b>      | Insulin glulisine is a biosynthetic, rapid-acting human insulin analogue produced in a non-pathogenic laboratory strain of <i>Escherichia coli</i> (K12). This recombinant hormone differs from native human insulin in that the amino acid arginine at position B3 is replaced by lysine and the lysine at position B29 is replaced by glutamic acid. These structural modifications decrease hexamer formation, stabilize insulin glulisine monomers and increase the rate of absorption and onset of action compared to human insulin.                             |
| <b>AA Sequence</b>      | >A chainGIVEQCCTSICSLYQLENYCN>B chainFVKQHLCSHLVEALYLVCGERGEFYTPET                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Endotoxin</b>        | < 1.0 EU per µg of the protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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|                            |                                                                                                                                                                                                                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity</b>              | >95%                                                                                                                                                                                                                                                                                                                          |
| <b>Storage</b>             | Can be stored at +4 centigrade short term (1-2weeks). For long term storage, aliquot and store at -20 centigrade or -70 centigrade. Avoid repeated freezing and thawing cycles.                                                                                                                                               |
| <b>Alias</b>               | INS; ILPR; IRDN; IDDM2; Insulin glulisine                                                                                                                                                                                                                                                                                     |
| <b>GENE INFORMATION</b>    |                                                                                                                                                                                                                                                                                                                               |
| <b>Gene Name</b>           | INS insulin [ Homo sapiens ]                                                                                                                                                                                                                                                                                                  |
| <b>Official Symbol</b>     | INS                                                                                                                                                                                                                                                                                                                           |
| <b>Synonyms</b>            | INS; insulin; proinsulin; ILPR; IRDN; IDDM2; MODY10;                                                                                                                                                                                                                                                                          |
| <b>Gene ID</b>             | 3630                                                                                                                                                                                                                                                                                                                          |
| <b>mRNA Refseq</b>         | NM_000207                                                                                                                                                                                                                                                                                                                     |
| <b>Protein Refseq</b>      | NP_000198                                                                                                                                                                                                                                                                                                                     |
| <b>UniProt ID</b>          | P01308                                                                                                                                                                                                                                                                                                                        |
| <b>Chromosome Location</b> | 11p15.5                                                                                                                                                                                                                                                                                                                       |
| <b>Pathway</b>             | ATF-2 transcription factor network, organism-specific biosystem; Adipogenesis, organism-specific biosystem; Aldosterone-regulated sodium reabsorption, organism-specific biosystem; Aldosterone-regulated sodium reabsorption, conserved biosystem; Amyloids, organism-specific biosystem; Arf6 trafficking events, organism- |

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|          |                                                                                                                                                                         |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | specific biosystem; Developmental Biology, organism-specific biosystem;                                                                                                 |
| Function | hormone activity; hormone activity; hormone activity; insulin receptor binding; insulin receptor binding; insulin-like growth factor receptor binding; protein binding; |

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