

**Recombinant Human Betacellulin  
(rhBTC)  
Catalog Number: 107-12**

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Betacellulin (BTC) is a member of the epidermal growth factor (EGF) family of cytokines and appears to play a role in the growth and differentiation of pancreatic beta cells. BTC and Activin A synergistically can convert AR42J rat pancreatic cells from amylase-secreting cells to insulin-producing cells. Human BTC is initially synthesized as a glycosylated transmembrane precursor protein, which is then proteolytically cleaved to generate its mature form. At the amino acid sequence level, human mature BTC protein exhibits 80% identity with mouse BTC protein. BTC is expressed in most tissues including kidney, uterus, liver and pancreas. It is also present in bodily fluids, such as in serum, milk, and colostrum. |
| <b>Synonyms</b>            | Probetacellulin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>AA Sequence</b>         | DGNSTRSPET NGLLCGDPEE NCAATTTQSK RKGHFSRCPK QYKHYCIKGR<br>CRFVVAEQTP SCVCDEGYIG ARCERVDLFY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Source</b>              | <i>Escherichia coli</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Molecular Weight</b>    | Approximately 9 kDa monomeric protein containing 80 amino acids, comprising the mature EGF homologous portion of BTC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Purity</b>              | >98% by SDS-PAGE and HPLC analyses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Biological Activity</b> | ED <sub>50</sub> is <0.05ng/ml, corresponding to a specific activity of $\geq 2 \times 10^7$ units/mg, as determined by the proliferation of murine Balb/3T3 cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Physical Appearance</b> | White lyophilized powder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Formulation</b>         | Lyophilized from a 0.2µm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Endotoxin</b>           | < 1EU/µg of growth factor as determined by LAL method.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Reconstitution</b>      | Reconstitute in sterile distilled water containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Storage</b>             | Store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Usage</b>               | This product is for research use only. It is not approved for use in humans, animals, or <i>in vitro</i> diagnostic procedures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |