HB220318

# Recombinant Human Growth Differentiation Factor 7/Bone Morphogenetic Protein-12 (Human GDF-7/BMP-12)

## Product Information

| Product Name | Cat# | Size |
|---|---|---|
| Recombinant Human Growth Differentiation Factor 7/Bone Morphogenetic Protein-12 (Human GDF-7/BMP-12) | 92001ES10 | 10 μg |
| | 92001ES60 | 100 μg |
| | 92001ES76 | 500 μg |

## Product Description

Growth Differentiation Factor-7 (GDF-7; also called BMP-12 and CDMP-3) is a member of the BMP family of TGF-beta superfamily proteins. GDF-7 is synthesized as a large precursor protein that consists of an N--terminal 19 amino acid (aa) signal sequence, a 302 aa pro region and a 129 aa C-terminal mature peptide. At the amino acid level, mature human GDF-7 shares 85% and 88% aa sequence identity with mature GDF-7 in mouse and rat, respectively. Mature human GDF-7 lacks a glycine repeat that is found in both mouse and rat GDF-7. Based on sequence similarity, GDF-7 is categorized with GDF-5 and -6, as a subgroup within the BMP family. GDF-7 functions as a homodimer and elicits its bioactivity by mediating the formation of a heterodimeric receptor complex consisting of a type 1 (BMPR-IB) and a type II (BMPR-II or Activin RII) serine/threonine kinase receptor. GDF-7 signaling results in the phosphorylation and activation of cytosolic Smad proteins (Smad1, 5, and 8).

## Product Properties

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|---|---|
| **Synonyms** | BMP12，GDF7 |
| **Accession** | Q7Z4P5 |
| **GeneID** | 151449 |
| **Source** | E.coli-derived Human GDF-7/BMP-12, Thr322-Arg450. |
| **Molecular Weight** | Approximately 28.0 kDa. |
| **AA Sequence** | TALAGTRTAQ GSGGGAGRGH GRRGRSRCSR KPLHVDFKEL GWDDWIIAPL DYEAYHCEGL CDFPLRSHLE PTNHAIIQTL LNSMAPDAAP ASCCVPARLS PISILYIDAA NNVVYKQYED MVVEACGCR |
| **Tag** | None |
| **Physical Appearance** | Sterile Filtered White lyophilized (freeze-dried) powder. |
| **Purity** | > 95% by SDS-PAGE and HPLC analyses. |
| **Biological Activity** | The $ED_{50}$ as determined by inducing alkaline phosphatase production of murine ATDC5 cells is less than 1.0 μg/mL, corresponding to a specific activity of > 1000 IU/mg. Fully biologically active when compared to standard. |
| **Endotoxin** | < 0.1 EU per 1μg of the protein by the LAL method. |
| **Formulation** | Lyophilized from a 0.2 μm filtered concentrated solution in 30% Acetonitrile and 0.1% TFA. |
| **Reconstitution** | We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20℃. Further dilutions should be made in appropriate buffered solutions. |

## Shipping and Storage

The products are shipped with ice pack and can be stored at -20℃ to -80℃ for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

## Cautions

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only!