

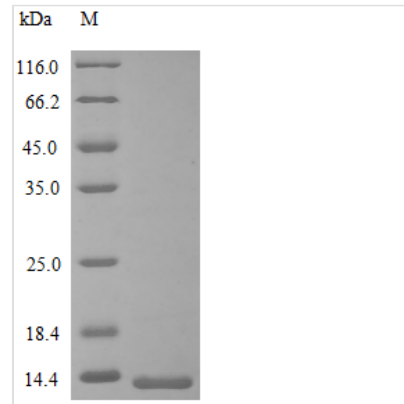


# Recombinant Human Growth/differentiation factor 5 (GDF5) (Active)

<b>Product Code</b>	CSB-AP005981HU
<b>Relevance</b>	Growth factor involved in bone and cartilage formation. During cartilage development regulates differentiation of chondrogenic tissue through two pathways. Firstly, positively regulates differentiation of chondrogenic tissue through its binding of high affinity with BMPR1B and of less affinity with BMPR1A, leading to induction of SMAD1-SMAD5-SMAD8 complex phosphorylation and then SMAD protein signaling transduction (PubMed:24098149, PubMed:21976273, PubMed:15530414, PubMed:25092592). Secondly, negatively regulates chondrogenic differentiation through its interaction with NOG (PubMed:21976273). Required to prevent excessive muscle loss upon denervation. This function requires SMAD4 and is mediated by phosphorylated SMAD1/5/8 (By similarity). Binds bacterial lipopolysaccharide (LPS) and mediates LPS-induced inflammatory response, including TNF secretion by monocytes (PubMed:11276205).
<b>Abbreviation</b>	Recombinant Human GDF5 protein (Active)
<b>Uniprot No.</b>	P43026
<b>Storage Buffer</b>	Lyophilized from a 0.2 um filtered concentrated solution in 30 % Acetonitrile and 0.1 % TFA.
<b>Product Type</b>	Growth Factors
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Biological Activity</b>	Fully biologically active when compared to standard. The ED50 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.
<b>Purity</b>	≥ 95 % as determined by SDS-PAGE
<b>Sequence</b>	APLATRQGKR PSKNLKRCS RKALHVNFKD MGWDDWIIAP LEYEAFHCEG LCEFPLRSHL EPTNHAVIQT LMNSMDPEST PPTCCVPTRL SPISILFIDS ANNVYKQYE DMVVESCGCR
<b>Research Area</b>	Signal Transduction
<b>Source</b>	E.Coli
<b>Target Names</b>	GDF5
<b>Expression Region</b>	382-501aa
<b>Tag Info</b>	Tag-Free
<b>Mol. Weight</b>	13.6 kDa
<b>Protein Length</b>	Full Length of Mature Protein
<b>PubMed ID</b>	7980526; 7961761; 11780052; 15489334; 8589725; 11276205; 15530414; 18339631; 19956691; 21976273; 24098149; 25092592; 26643732; 22828468;



19229295; 9288098; 12121354; 14735582; 16222676; 16127465; 16532400;  
16892395; 17384641; 18629880; 18203755; 18283415;

**Image**

(Tris-Glycine gel) Discontinuous SDS-PAGE  
(reduced) with 5% enrichment gel and 15%  
separation gel.

**Endotoxin**

Less than 0.1 EU/ug as determined by LAL method.

**Shelf Life**

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.