

## Product datasheet

# Recombinant human GDF6 protein (Active) ab245811

### Description

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| <b>Product name</b>                    | Recombinant human GDF6 protein (Active)  |
| <b>Biological activity</b>             | Determined by its ability to induce alkaline phosphatase production by ATDC-5 cells. The expected ED <sub>50</sub> for this effect is 2.0-3.0 µg/ml.                       |
| <b>Purity</b>                          | >= 95 % SDS-PAGE.<br>= 95% by HPLC..   |
| <b>Expression system</b>               | Escherichia coli   |
| <b>Accession</b>                       | <b><u>Q6KF10</u></b>   |
| <b>Protein length</b>                  | Full length protein  |
| <b>Animal free</b>                     | Yes  |
| <b>Nature</b>                          | Recombinant  |
| <b>Species</b>                         | Human  |
| <b>Sequence</b>                        | TAFASRHGKRHGKKSRLRCSKKPLHVNFKELGWDDWIIA<br>PLEYEAYHCEG<br>VCDFPLRSHLEPTNHAIQTLMNMDPGSTPPSCCVPTKL<br>TPISILYIDA GNNVVYKQYEDMVVESCGR   |
| <b>Predicted molecular weight</b>      | 14 kDa   |
| <b>Amino acids</b>                     | 336 to 455   |
| <b>Additional sequence information</b> | Full length chain without signal peptide, without propeptide. Product is 27.0 kDa homodimeric disulfide-linked protein consisting of two 120 amino acid polypeptide chains |

### Specifications

Our **Abpromise guarantee** covers the use of **ab245811** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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| <b>Applications</b>     | SDS-PAGE<br>Functional Studies<br>HPLC       |
| <b>Form</b>             | Lyophilized                                  |
| <b>Additional notes</b> | Manufactured using all animal-free reagents. |

## Preparation and Storage

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| <b>Stability and Storage</b> | <p>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.</p> <p>Constituent: 0.1% Trifluoroacetic acid</p> <p>This product is an active protein and may elicit a biological response in vivo, handle with caution.</p> |
| <b>Reconstitution</b>        | <p>Reconstitute in water to 0.1-1.0 mg/ml.</p>  |

## General Info

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| <b>Function</b>               | <p>Growth factor that controls proliferation and cellular differentiation in the retina and bone formation. Plays a key role in regulating apoptosis during retinal development. Establishes dorsal-ventral positional information in the retina and controls the formation of the retinotectal map (PubMed:23307924). Required for normal formation of bones and joints in the limbs, skull, digits and axial skeleton. Plays a key role in establishing boundaries between skeletal elements during development. Regulation of GDF6 expression seems to be a mechanism for evolving species-specific changes in skeletal structures. Seems to positively regulate differentiation of chondrogenic tissue through the growth factor receptors subunits BMPR1A, BMPR1B, BMPR2 and ACVR2A, leading to the activation of SMAD1-SMAD5-SMAD8 complex. The regulation of chondrogenic differentiation is inhibited by NOG (PubMed:26643732). Also involved in the induction of adipogenesis from mesenchymal stem cells. This mechanism acts through the growth factor receptors subunits BMPR1A, BMPR2 and ACVR2A and the activation of SMAD1-SMAD5-SMAD8 complex and MAPK14/p38.</p> |
| <b>Involvement in disease</b> | <p>Klippel-Feil syndrome 1, autosomal dominant</p> <p>A chromosomal aberration involving GDF6 has been found in a patient with Klippel-Feil syndrome (KFS). Paracentric inv(8)(q22;q23.3).</p> <p>Microphthalmia, isolated, 4</p> <p>Leber congenital amaurosis 17</p> <p>Defects in POP1 may be the cause of multiple synostoses syndrome (SYNS). SYNS is a bone disease characterized by multiple progressive joint fusions that commonly involve proximal interphalangeal, tarsal-carpal joints. Additional features can include progressive conductive deafness.</p>  |
| <b>Sequence similarities</b>  | <p>Belongs to the TGF-beta family.</p>  |
| <b>Cellular localization</b>  | <p>Secreted.</p>  |

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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