

## Product datasheet

# Recombinant human IGF1 protein (Active) ab270062

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### Description

<b>Product name</b>	Recombinant human IGF1 protein (Active)	
<b>Biological activity</b>	Fully biologicaly active as determined by dose-depended proliferation of MCF-7 cells. ED <sub>50</sub> is ≤ 0.9 ng/mL, corresponding to a specific activity of 1.11 x 10 <sup>6</sup> units/mg.	
<b>Purity</b>	≥ 95 % Immunogen affinity purified. Purity by HPLC ≥95%.	
<b>Endotoxin level</b>	< 0.005 Eu/μg	
<b>Expression system</b>	HEK 293 cells	
<b>Accession</b>	<b><u>P05019</u></b>	
<b>Protein length</b>	Full length protein	
<b>Animal free</b>	Yes	
<b>Carrier free</b>	Yes	
<b>Nature</b>	Recombinant	
<b>Species</b>	Human	
<b>Sequence</b>	GP ETLCGAELVD ALQFVCGDRG FYFNKPTGYG SSSRRAPQTG IVDECCFRSC DLRRLEMYCA PLKPAKSA	
<b>Predicted molecular weight</b>	8 kDa	
<b>Molecular weight information</b>	M - 2.84 Da (Calculated mass 7711.84 Da) GP ETLCGAELVD ALQFVCGDRG FYFNKPTGYG SSSRRAPQTG IVDECCFRSC DLRRLEMYCA PLKPAKSA	
<b>Amino acids</b>	49 to 118	
<b>Additional sequence information</b>	N-terminal glycine Full-length mature chain lacking the signal peptide and both pro-peptides.	

### Specifications

Our **Abpromise guarantee** covers the use of **ab270062** in the following tested applications.

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

<b>Applications</b>	Cell Culture
	SDS-PAGE
	HPLC

Mass Spectrometry

Functional Studies

**Form** Lyophilized

**Additional notes** This protein is filter sterilized prior to aliquoting and lyophilization. All aliquoting and lyophilization steps are performed in a sterile environment

## Preparation and Storage

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**Stability and Storage** Shipped at Room Temperature. Store at Room Temperature.

Information available upon request.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

**Reconstitution** Reconstitute with phosphate buffered saline. Store lyophilized form at room temperature. Reconstitute, aliquot and store at -80°C for 12 months or +4°C for 1 week. Avoid repeated freeze-thaw. Lyophilized contents may appear as either a translucent film or a white powder. This variance does not affect the quality of the product.

## General Info

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**Function** The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity. May be a physiological regulator of [1-14C]-2-deoxy-D-glucose (2DG) transport and glycogen synthesis in osteoblasts. Stimulates glucose transport in rat bone-derived osteoblastic (PyMS) cells and is effective at much lower concentrations than insulin, not only regarding glycogen and DNA synthesis but also with regard to enhancing glucose uptake.

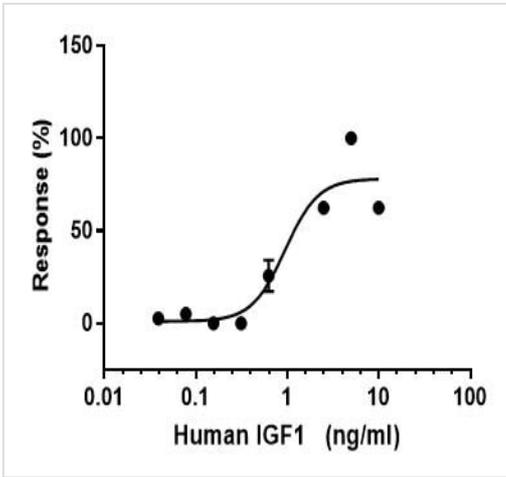
**Involvement in disease** Defects in IGF1 are the cause of insulin-like growth factor I deficiency (IGF1 deficiency) [MIM:608747]. IGF1 deficiency is an autosomal recessive disorder characterized by growth retardation, sensorineural deafness and mental retardation.

**Sequence similarities** Belongs to the insulin family.

**Cellular localization** Secreted.

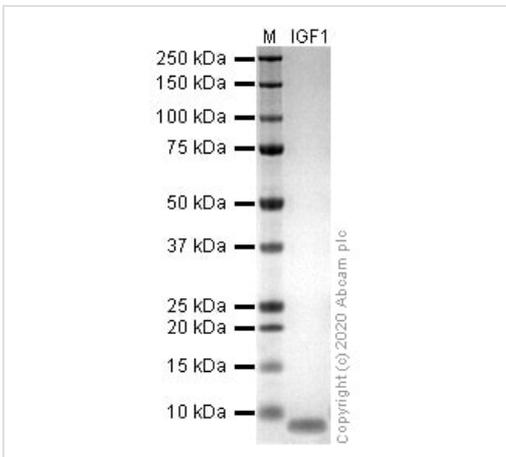
## Images

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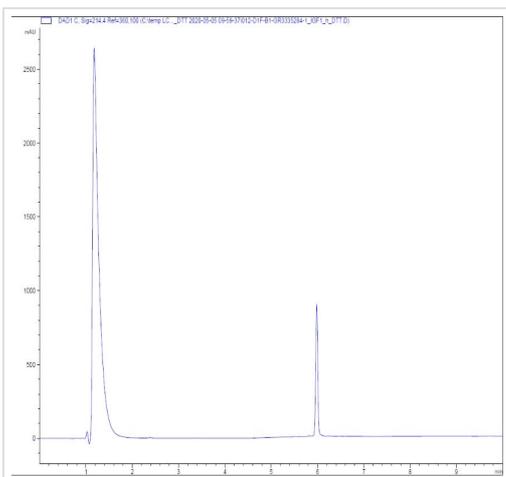
Functional Studies - Recombinant human IGF1 protein (Active) (ab270062)

Fully biologically active as determined by dose-dependent proliferation of MCF-7 cells. The  $ED_{50}$  is  $\leq 0.9$  ng/mL, corresponding to a specific activity of  $1.11 \times 10^6$  units/mg.



SDS-PAGE - Recombinant human IGF1 protein (Active) (ab270062)

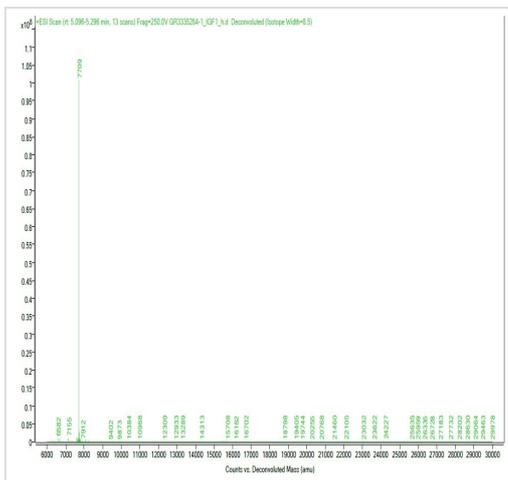
SDS-PAGE analysis of ab270062.



HPLC - Recombinant human IGF1 protein (Active) (ab270062)

Purity  $\geq 95\%$

The spectrum was recorded using a 1260 Infinity II HPLC system with DAD and a MabPac RP column (3.0x100 mm, 4  $\mu$ m). 5  $\mu$ L of purified protein was injected and the gradient run from 80 % water:TFA (99.9:0.1 v/v) and 20 % acetonitrile:water:TFA (90:9.9:0.1 v/v/v) to 20 % water:TFA (99.9:0.1 v/v) and 80 % acetonitrile:water:TFA (90:9.9:0.1 v/v/v) within 3 minutes followed by an isocratic step for another 3 min. Flow rate was 0.5 mL/min and the column compartment temperature was 50  $^{\circ}$ C.



M - 2.84 Da (Calculated mass 7711.84 Da)

The spectrum was recorded with a 6545XT AdvanceBio LC/Q-TOF (Agilent Technologies) and a MabPac RP column (42.1x50 mm, 4 μm, Thermo Scientific). 5 μL of purified protein was injected and the gradient run from 85 % water:FA (99.9:0.1 v/v) and 15 % acetonitrile:FA (90:9.9:0.1 v/v/v) to 55 % water:FA (99.9:0.1 v/v) and 45 % acetonitrile:FA (90:9.9:0.1 v/v/v) within 3 minutes followed by an isocratic step for another 2.5 min. Flow rate was 0.4 mL/min and the column compartment temperature was 60 °C. Data was analysed and deconvoluted using the Bioconfirm software (Agilent Technologies).

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

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