BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno

Date of issue: 16.01.2018

PRODUCT DATASHEET

IGFBP-2 Human E. coli

Cat. No.: RD172583100
Type: Recombinant
Size: 0.1 mg
Source: E. coli
Species: Human

Description
Total 297 AA. MW: 32.4 kDa (calculated). UniProtKB acc. no. P18065 (Ala36-Gln325). N-terminal His-tag (7 extra AA). Protein identity confirmed by LC-MS/MS.

Other names
IGFBP-2, Insulin-Like Growth Factor Binding Protein-2

Introduction to the molecule
Insulin-like growth factors (IGFs) regulate the proliferation, differentation, apoptose, cell adhesion and metabolism in various tissues and cell types. The IGF-1, which is produced mainly in liver under the influence of growth hormone (GH), regulates as hormone the linear growth of the bones and the process of sexual maturity, while IGF-2 is mainly a growth factor of fetal tissue. The biological actions of IGF over the IGF-Type-1 receptor are modulated variably through the IGF binding proteins (IGFBP-1 to-6). IGFBP-2 is, after IGFBP-3, the second most frequent IGFBP in the human blood. IGFs, especially tumor typical pro-IGF-forms and hormones regulate the expression of IGFBP-2, GH effect is thereby inhibiting. At cellular level IGFBP-2 seems to stimulate the proliferation and dissemination of solid tumors via an IGF-independent mechanism. IGFBP-2 is a unglycosylated polypetide of 31.3 kDa, which forms binary IGF-complexes and shows no circadian rhythm in the circulation.The serum concentration of IGFBP-2 increases in fasting, after major surgery and after trauma, but the increasing of the concentration is most intensive in malignant diseases. The correlation of the IGFBP-2 level to the degree of progression is a striking feature in various tumor types as is the normalization of the IGFBP-serum levels after remission. The IGFBP-2 concentration is age-dependent in blood.

Research topic
Animal studies, Growth hormone and factor-related products, Oncology

Amino Acid sequence
MHHHHHHAEV LFRCPPCTPE RLAACGPPPV APPAAVAAVA GGARMPCAEL VREPGCGCCS VCARLEGEAC GVYTPRCGQG LRCYPHPGSE LPLQALVMGE GTCEKRRDAE YGASPEQVAD NGDDHSEGGL VENHVDSTMN MLGGGGSAGR KPLKSGMKEL AVFREKVTEQ HRQMGKGGKH HLGLEEPKKL RPPPARTPCQ QELDQVLERI STMRLPDERG PLEHLYSLHI PNCDKHGLYN LKQCKMSLNG QRGECWCVNP NTGKLIQGAP TIRGDPECHL FYNEQQEARG VHTQRMQ

Purity
Purity as determined by densitometric image analysis: > 95 %

Endotoxin
< 0.1 EU/µg

Formulation:
Filtered (0.4 µm) and lyophilized from 0.5 mg/ml solution in phosphate buffered saline, pH 7.5.

Reconstituion:
Add deionized water to prepare a working stock solution of approximately 0.5 mg/ml and let the lyophilized pellet dissolve completely.

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Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store lyophilized protein at –80°C. Lyophilized protein remains stable until the expiry date when stored at –80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at –80°C for long term storage. Reconstituted protein can be stored at 4°C for a week.

Quality control

BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

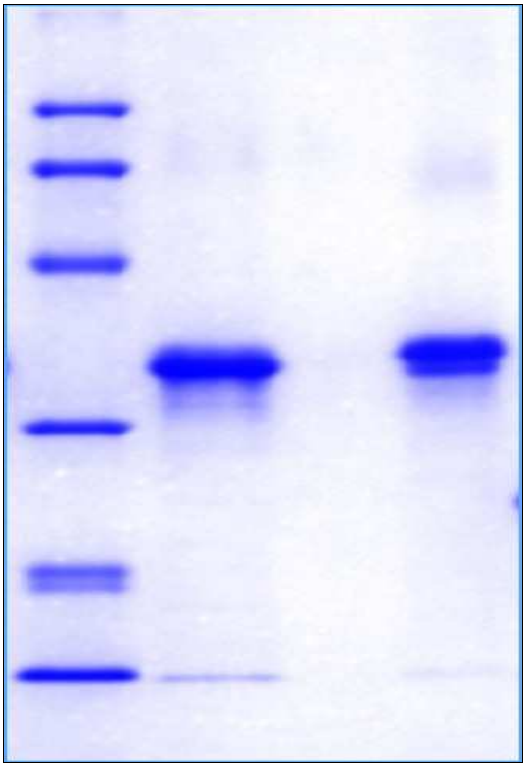
LAL to determine quantity of endotoxin.

Applications

ELISA, Western blotting

Note

This product is intended for research use only.



14 % SDS-PAGE separation of Human IGFBP-2:
1. M.W. marker – 14, 21, 31, 45, 66, 97 kDa
2. Reduced and boiled sample, 2.5 µg/lane
3. Non-reduced and non-boiled sample, 2.5 µg/lane

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