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

Date of issue: 05.09.2018

PRODUCT DATASHEET

Placental Protein 13 (Galectin-13) Human E. coli

Cat. No.: RD172254100
Type: Recombinant protein
Size: 0.1 mg
Source: E. coli
Species: Human

Description
Total 149 AA. MW: 17.36 kDa (calculated). UniProtKB acc.no. Q9UHV8. N-Terminal His-tag (10 extra AA)

Other names
Galactoside-Binding Soluble Lectin 13, Galectin-13, Gal-13, Placental tissue protein 13, PP13, LGALS13, PLAC8

Introduction to the molecule
Placental protein 13 (PP13, Galectin 13) is the member of the beta-galactoside binding S-type galectin superfamily, whose members are important in placenta implantation and remodelling of maternal arteries. PP13 binds to beta-galactoside residues of several proteins on the cell surface, cytoskeleton and extracellular matrix, thereby generating various responses such as immune responses and influencing other functions like apoptosis and molecular recognition. PP13, which is predominantly produced by placental tissue, possesses a conserved carbohydrate binding domain, to which two proteins Annexin-II and Actin-beta bind. These proteins are considered to play a key role in placentation and maternal artery remodelling respectively. Human PP13 is a relatively small protein with 139 amino acids and is composed of two identical 16 kDa subunits held together by disulfide bonds. PP13 was first isolated from placenta and especially from the syncytiotrophoblast in 1983 by Bohn et. al. It is localized to the syncytiotrophoblast brush border membrane, and detected in maternal and cord blood. Though it is found primarily in placenta, some PP13 expression was also detected in healthy spleen, kidney and bladder tissue and in liver adenocarcinoma, neurogen tumour and malignant melanoma. The serum levels of PP13 slowly increase during a normal pregnancy but abnormally low levels of PP-13 were detected in firs trimester serum samples of women subsequently developing fetal growth restriction and preeclampsia, especially in cases with early onset. Elevated serum concentrations of PP-13 have been found in the second and third trimester in women with preeclampsia, intrauterine growth restriction (IUGR) and in preterm delivery. Another study concluded that first-trimester serum levels of PP13 may serve as a suitable marker for preterm preeclampsia but are weak for the prediction of severe preeclampsia and ineffective for mild preeclampsia at term.

Research topic
Reproduction

Amino Acid sequence
MKHHHHHHAS MSSLPVPYKL PVSLSVGSCV IIKGTPIHSF INDPQLQVDF YTDMDEDSDI AFRFRVHFGN HVVMNRREFG IWMLEETTDY VPFEDGKQFE LCIYVHYNEY EIKVNGIRIY GFVHRIPPSF VKMVQVSRDI SLTSVCVCN

Purity
>90%

Endotoxin
< 1.0 EU/µg

Formulation:
Filtered (0.4 µm) and lyophilized in phosphate buffered saline pH 7.5.

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Phone: +420-549-124-185, Fax: +420-549-211-460
E-mail: info@biovendor.com, sales@biovendor.com
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Reconstituion:
Add deionized water to prepare a working stock solution of 0.5 mg/mL and let the lyophilized pellet dissolve completely. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

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

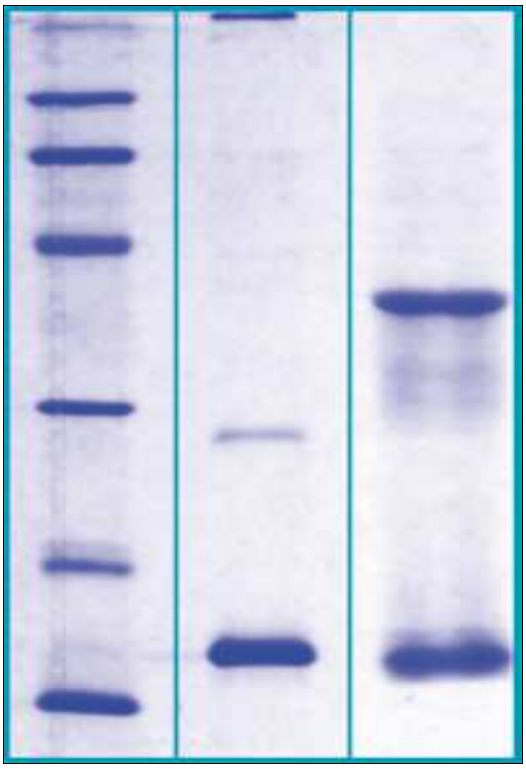
Storage, Stability/Shelf Life
Store the lyophilized protein at –80 °C. Lyophilized protein remains stable until the expiry date when stored at –80 °C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at –80 °C for long term storage. Reconstituted protein can be stored 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, Immunoassays, Western blotting



14% SDS-PAGE separation of Human PP13
1. M.W. marker – 14, 21, 31, 45, 66, 97 kDa
2. reduced and boiled sample, 5µg/lane
3. non-reduced and non-boiled sample, 5µg/lane

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