Recombinant GDF-15/MIC-1 Human (CHO Cells)

Product Data Sheet

Type: Recombinant
Source: CHO cells
Species: Human
Other names: Growth differentiation factor 15, MIC-1, Macrophage Inhibitory Cytokine 1, Placental TGFβ, Prostate Differentiation Factor (PDF), PLAB, NRG-1

Cat. No.:

RBG10164C005	(5 µg)
RBG10164C020	(20 µg)
RBG10164C100	(100 µg)

Description

GDF-15 belongs to the TGF-beta cytokine family, whose members play an important role during prenatal development and postnatal growth, and the remodeling and maintenance of a variety of tissues and organs. GDF-15 is expressed predominantly in the placenta and, to a much lesser extent, in various other tissues. The presence of GDF-15 in amniotic fluid and its elevated levels in the sera of pregnant women suggest GDF-15's involvement in gestation and embryonic development. GDF-15 generally exerts tumor suppressive activities and is one of the predominant factors produced and secreted in response to activation of the p53 pathway. Interestingly, the serum level of GDF-15 is positively correlated with neoplastic progression of several tumor types, including certain colorectal, pancreatic, and prostate cancers. Human GDF-15/MIC-1 is a disulfide linked homodimeric protein consisting of two 112 amino acid polypeptide chains. The calculated molecular weight of Human GDF-15/MIC-1 is 24.6 kDa.

Introduction to the Molecule

GDF-15/MIC-1 is synthesized as a 62-kDa precursor protein, which, after cleavage by furin-like protease, is secreted as 25-kDa disulfide-linked dimmer. GDF-15/MIC-1 is weakly produced under baseline condition in most tissues such as brain, liver, kidney, pancreas, but not normally in many other organs including the heart, and is highly expressed in placenta and moderately in prostate. GDF-15 is upregulated by cardiovascular events triggering oxidative stress, including pressure overload, and atherosclerosis. Moreover, increased circulating GDF-15 concentrations have been linked to an enhanced risk of future adverse cardiovascular events in elderly woman and it was describe as a new biomarker of the risk of death in patients with non-ST-elevation acute coronary syndrome. Serum GDF-15 concentrations increase in maternal serum with advancing gestation in normal pregnancy. Low GDF-15 concentrations reportedly are associated with an increased risk of preterm labor or miscarriage.

Research topic

Cardiovascular disease, Cytokines and chemokines and related molecules, Oncology, Reproduction

Amino Acid Sequence

ARNGDHCPLG PGRCCRLHTV RASLEDLGWA DWVLSPREVQ VTMCIGACPS QFRAANMHAQ IKTSLHRLKP DTVPAPCCVP ASYNPMVLIQ KTDTGVSLQT YDDLLAKDCH CI

Source

CHO cells

Purity

≥ 95% by SDS-PAGE gel and HPLC analyses.

Biological Activity

Determined by its ability to inhibit alkaline phosphatase activity in differentiating MC3T3/E1 osteoblastcells. The expected ED_{50} for this effect is 75-200 ng/ml.

Storage, Stability/Shelf Life

-20°C

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