GDF-15/MIC-1 Human Cell Culture

Product Data Sheet

Type: Recombinant
Source: Cell Culture
Species: Human
Other names: Growth differentiation factor 15

Cat. No.: RBG10164005 (5 µg)
           RBG10164020 (20 µg)
           RBG10164100 (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 RASLEDLIGNA DWVLSPREVQ VTMCIGACPS QFRAANMHAQ IKTSHLRLKP DTVPAPCCVF ASYNFMVLIQ KTDTGVSLQT YDDLAKDCH CI

Source
Cell Culture

Purity
98%

Biological Activity
Determined by its ability to inhibit alkaline phosphatase activity in differentiating MC3T3/E1 osteoblast cells. The expected ED 50 for this effect is 1.0-3.0 µg/ml.

Storage, Stability/Shelf Life
<table>
<thead>
<tr>
<th>HEADQUARTERS:</th>
<th>BioVendor Laboratorní medicína, a.s.</th>
<th>Karasek 1767/1</th>
<th>621 00 Brno</th>
<th>CZECH REPUBLIC</th>
<th>Phone: +420-549-124-185</th>
<th>Fax: +420-549-211-460</th>
<th>E-mail: <a href="mailto:info@biovendor.com">info@biovendor.com</a></th>
<th>Web: <a href="http://www.biovendor.com">www.biovendor.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRIA:</td>
<td>BioVendor GesmbH</td>
<td>Nußdorfer Straße 20/10</td>
<td>1090 Vienna</td>
<td>AUSTRIA</td>
<td>Phone: +43-1-89090-25</td>
<td>Fax: +43-1-89090-2515</td>
<td>E-mail: <a href="mailto:infoAustria@biovendor.com">infoAustria@biovendor.com</a></td>
<td></td>
</tr>
<tr>
<td>GERMANY, SWITZERLAND:</td>
<td>BioVendor GmbH</td>
<td>Otto-Hahn-Straße 16</td>
<td>34123 Kassel</td>
<td>GERMANY</td>
<td>Phone: +49-6221-433-9100</td>
<td>Fax: +49-6221-433-9111</td>
<td>E-mail: <a href="mailto:infoEU@biovendor.com">infoEU@biovendor.com</a></td>
<td></td>
</tr>
<tr>
<td>USA, CANADA AND MEXICO:</td>
<td>BioVendor LLC</td>
<td>128 Bingham Rd. Suite 1300</td>
<td>Asheville, NC 28806</td>
<td>USA</td>
<td>Phone: +1-828-575-9250</td>
<td>+1-800-404-7807</td>
<td>Fax: +1-828-575-9251</td>
<td>E-mail: <a href="mailto:infoUSA@biovendor.com">infoUSA@biovendor.com</a></td>
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</tbody>
</table>