Recombinant Mouse Isthmin 1/ISM1

Catalog Number: 9846-IS

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse Isthmin 1/ISM1 protein Ser27-Tyr461, with a C-terminal 6-His tag Accession # NP_001263418
N-terminal Sequence Analysis	Ser27
Predicted Molecular Mass	50 kDa

SPECIFICATIONS

SDS-PAGE	61-71 kDa, reducing conditions
Activity	Bioassay data are not available.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

BACKGROUND

Isthmin 1 (ISM1) is adhesion antiangiogenic molecule found in skin, muscosal tissues and immuneregulatory cells (1). Mature mouse ISM1 contains two key domains, a central 45 aa TSP type 1 domain followed by a C-terminal 164 aa AMOP domain, the latter of which is responsible for much of the antiangiogenic function (2). ISM1 was originally characterized in Xenopus, and mouse ISM1 shares a 77% similarity with its frog counterpart. Much greater conservation is seen across mammalian species, with mouse ISM1 sharing 92% and 98% aa sequence identity with human and rat ISM1, respectively. ISM shares various roles in developing embryos, from craniofacial patterning (3) to development of the lung tissues as well as tissue homeostasis in adults (4). In the vascular system, Isthmin 1 has been described as an angiogenesis inhibitor. It inhibits angiogenesis *in vitro* and *in vivo*, as well as during tumor progression (5). A dual function of Isthmin 1 has also been described where it exerts pro-survival effect on endothelial cells when immobilized, whereas soluble Isthmin 1 induced endothelial cell apoptosis (6). Our in-house bioassay has showed that ISM-1 can support cortical neuron neurite outgrowth.

References:

1. Valle-Rios, R. *et al.* (2014). J. Interf. Cytok. Res. **34**:795.
2. Xiang W. *et al.* (2011). J. Cell. Mol. Med. **15**:359.
3. Lansdon, L. *et al.* (2018). Genetics. **208**:283.
4. Osório, L. *et al.* (2014). Cell cycle. **13**:1571.
5. Chen, M. *et al.* (2014) Cell Death and Differetiation. **21**:797.
6. Zhang, Y. *et al.* (2011) Cell Death. Dis. **2**:e153.

Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475