Recombinant Human Melanotransferrin/CD228 His-tag

Catalog Number: 10696-MT

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human Melanotransferrin/CD228 protein Gly20-Gly711, with a C-terminal 6-His tag Accession # NP_005920.2
N-terminal Sequence Analysis	Gly20
Predicted Molecular Mass	76 kDa

SPECIFICATIONS

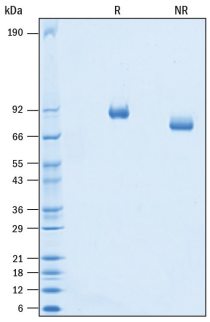
SDS-PAGE	84-92 kDa, under reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. Recombinant Human Melanotransferrin/CD228 His-tag, immobilized at 2.5 µg/mL on a 96 well plate, is able to significantly enhance neurite outgrowth.
Endotoxin 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 1 mg/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 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

SDS-PAGE



Recombinant Human Melanotransferrin/CD228 His-tag Protein SDS PAGE 2 µg/lane of Recombinant Human Melanotransferrin/CD228 His-tag Protein (Catalog # 10696-MT) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 84-92 kDa and 75-85 kDa, respectively.

BACKGROUND

Melanotransferrin (MTF), also known as CD228, P97, MELTF, or MFI2, is a member of the transferrin superfamily that binds to a single ferric iron with high affinity (1). It was originally identified as a membrane-bound protein with a coding region of 2217 bases encoding 738 amino acids (aa) including five Fe-binding residues, the consensus thermolysin metalloprotease sites, and a glycosyl-phosphatidylinositol (GPI) anchor (2). A secreted form of MTF (sMTF) has also been reported (2, 3). Human MTF shares 86% aa sequence identity with mouse and rat MTF. MTF expression is low in normal tissues but high in tumor and embryonic tissues. In melanoma MTF is associated with tumor metastasis and angiogenesis and upregulated in lung cancer tissue and cell lines (3). In the brain MTF is expressed in capillary endothelium but also in the reactive microglia associated with senile plaques in Alzheimer's disease (AD) (4). sMTF has been reported to be increased in patients with AD or arthritis and may modulate angiogenesis, cell migration, and plasminogen activation (5).

References:

1. Baker, E.N. *et al.* (1992) FEBS Lett. **298**:215.
2. Sekyere, E. & D.R. Richardson (2000) FEBS Lett. **483**:11.
3. Lei, Y. *et al.* (2020) Cell Death Dis. **11**:933.
4. Jefferies, W.A. *et al.* (1996) Brain Res. **712**:122.
5. Paluncic, J. *et al.* (2016) Biochim. Biophy. Acta. **1863**:770.

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