

ARMET/MANF Protein, Human (His)

Cat. No.:	HY-P71940A
Synonyms:	Arginine rich mutated in early stage tumors; Arginine rich protein; Arginine-rich protein; ARMET; ARMET protein; ARP; Manf; MANF_HUMAN; Mesencephalic astrocyte derived neurotrophic factor; Mesencephalic astrocyte-derived neurotrophic factor; MGC142148; MGC142150; Protein ARMET
Species:	Human
Source:	E. coli
Accession:	P55145 (L25-L182)
Gene ID:	7873
Molecular Weight:	Approximately 20 kDa

PROPERTIES

AA Sequence	<p> L R P G D C E V C I S Y L G R F Y Q D L K D R D V T F S P A T I E N E L I K F C R E A R G K E N R L C Y Y I G A T D D A A T K I I N E V S K P L A H H I P V E K I C E K L K K K D S Q I C E L K Y D K Q I D L S T V D L K K L R V K E L K K I L D D W G E T C K G C A E K S D Y I R K I N E L M P K Y A P K A A S A R T D L </p>
Biological Activity	Measured in a cell proliferation assay using rat C6 cells. The ED ₅₀ for this effect is 0.8862 µg/mL, corresponding to a specific activity is 1.13×10 ³ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	ARMET/MANF protein selectively promotes the survival of dopaminergic neurons in the ventral mid-brain, thereby playing a crucial role in neuronal homeostasis. It modulates GABAergic transmission to dopaminergic neurons in the substantia nigra, enhancing both spontaneous and evoked GABAergic inhibitory postsynaptic currents, indicating its involvement in neurotransmission regulation (By similarity). Additionally, ARMET/MANF inhibits cell proliferation and protects against
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endoplasmic reticulum (ER) stress-induced cell death, demonstrating its multifaceted role in cellular processes. Under normal conditions, the protein is retained in the ER/sarcoplasmic reticulum (SR) through its association with the endoplasmic reticulum chaperone protein HSPA5. However, in response to ER stress and hypoxia, ARMET/MANF is upregulated and secreted by the ER/SR, leading to its binding to 3-O-sulfogalactosylceramide, a lipid sulfatide in the outer cell membrane of target cells. This interaction facilitates cellular uptake through endocytosis and is crucial for ARMET/MANF's role in alleviating ER stress and mitigating cell toxicity under hypoxic and ER stress conditions. The protein also interacts directly with HSPA5 and is part of a complex involving CRELD2, MANF, MATN3, and PDIA4, further underscoring its involvement in cellular regulatory networks (By similarity).

Caution: Product has not been fully validated for medical applications. For research use only.

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