Data Sheet (Cat.No.TMPY-02732)

TargetMol

ARMET/MANF Protein, Mouse, Recombinant (His)

General Information

Synonyms:	AA408789;AA673178;D17914;D18Mgi17;mesencephalic astrocyte-derived neurotrophic factor;Armet;3230402M22Rik;AA407711
Protein Construction:	A DNA sequence encoding the mouse MANF (NP_083379.2) (Met 1-Leu 179) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Leu 22
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q9CXI5
Molecular Weight:	19.6 kDa (predicted); 21 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Mesencephalic astrocyte-derived neurotrophic factor, also known as Protein ARMET, Arginine-rich protein, MANF, and ARMET, is a secreted protein that belongs to the ARMET family. ARMET selectively promotes the survival of dopaminergic neurons of the ventral midbrain. It modulates GABAergic transmission to the dopaminergic neurons of the substantia nigra. ARMET enhances spontaneous, as well as evoked, GABAergic inhibitory postsynaptic

currents in dopaminergic neurons. ARMET inhibits cell proliferation and endoplasmic reticulum (ER) stress-induced cell death. The N-terminal region of ARMET may be responsible for neurotrophic activity while the C-terminal region may play a role in the ER stress response. MANF reduces endoplasmic reticulum (ER) stress and has neurotrophic effects on dopaminergic neurons. Intracortical delivery of recombinant MANF protein protects tissue from ischemic brain injury. MANF has been described as a survival factor for dopaminergic neurons. MANF expression was widespread in the nervous system and non-neuronal tissues. In the brain, relatively high MANF levels were detected in the cerebral cortex, hippocampus, and cerebellar Purkinje cells. The widespread expression of MANF together with its evolutionary conserved nature and regulation by brain insults suggests that it has important functions both under normal and pathological conditions in many tissue types.

Reference

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Gevaert K., et al., 2003, Nat. Biotechnol. 21:566-569.
Petrova P., et al., 2003, J. Mol. Neurosci. 20:173-188.
Lindholm, P. et al., 2008, Mol Cell Neurosci. 39 (3):356-71.
Airavaara, M. et al., 2010, Exp Neurol. 225 (1):104-13.