

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived mouse TMEM119 protein		
	Mouse TMEM119 (Tyr21-Met91) Accession # Q8R138.1	IEGRMDP	Mouse IgG _{2a} (Glu98-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Tyr21		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	35 kDa		

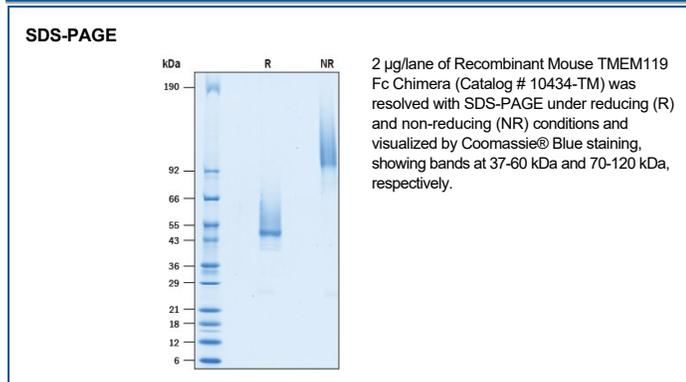
SPECIFICATIONS

SDS-PAGE	37-60 kDa, under reducing conditions
Activity	Measured by its ability to inhibit neurite outgrowth of E16-E18 rat embryonic cortical neurons. Recombinant Mouse TMEM119 Fc Chimera (Catalog # 10434-TM), immobilized at 1.25 µg/mL on a 96 well plate, is able to significantly inhibit 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 with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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



BACKGROUND

TMEM119 (Transmembrane Protein 119, also known as Osteoblast Induction Factor or OBIF), is an approximately 38-kDa type 1 transmembrane protein that is predominantly expressed in osteoblasts and is upregulated during osteoblastic differentiation (1, 2). TMEM119 is also expressed in a cell line of microglia, and TMEM119 immunoreactivity is observed in a specific subset of microglia in brains of neurodegenerative diseases, such as Alzheimer's disease (3). Mature mouse TMEM119 consists of a 71 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 168 aa cytoplasmic domain. Within the ECD, mouse TMEM119 shares 78% and 87% aa sequence identity with human and rat TMEM119, respectively. TMEM-119 is involved in the osteoblast differentiation and bone development by acting as a ligand and has been reported to contribute to the proliferation, migration, and invasion of osteosarcoma cells, as well as functioning as an oncogene in osteosarcoma (3, 4).

References:

1. Jiang, Z.H. *et al.* (2017) *Exp. Mol. Med.* **49**:e329.
2. Mizuhashi, K. *et al.* (2012) *Dev. Growth Differ.* **54**:474.
3. Satoh, J. *et al.* (2016) *Neuropathology* **36**:39.
4. Kanamoto, T. *et al.* (2009) *BMC Dev. Biol.* **9**:70.