

Recombinant Monkey glycoprotein nmb Protein, Fc tagged

Cat. No. GPNMB-09M Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Cyno/Rhesus Osteoactivin/GPNMB Protein (Lys23-Asn487) with Human IgG1 (Pro100-Lys330) Fc tag at C-terminus was expressed in CHO.

Species Monkey

Source CHO

ProteinLength 23-487aa

Description

Osteoactivin (also GPNMB and DC-HIL) is a variably glycosylated 75 - 125 kDa member of the NMB/pMEL-17 family of molecules. It is found in multiple subcellular sites, but is most often associated with the endosomal/lysosomal compartment. Human Osteoactivin is a 560 amino acid (aa) type I transmembrane protein. Its precursor contains a 21 aa signal sequence, a 465 aa luminal/extracellular domain, a 21 aa transmembrane segment and a 53 aa cytoplasmic tail. The luminal region contains an N-terminal heparin-binding motif (aa 23 - 26), multiple glycosylation sites, an RGD motif (aa 64 - 66) and an 88 aa PKD domain (aa 240 - 327). The intracellular tail has an ITAM (Y-x-x-I) and lysosomal targeting (L-L) motif. The extracellular/luminal region shares 94% aa identity between human and cynomolgus monkey Osteoactivin. Multiple isoforms would appear to exist. There is one alternate splice form known that shows a 12 aa insert between aa 339 - 340. An additional 206 aa isoform shows a mutation at position # 181 that results in a 26 aa substitution for the C-terminal 380 amino acids. This has the potential to be soluble and may represent a counterpart to a secreted isoform of rat Osteoactivin. Cells known to

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express Osteoactivin include macrophages/Kupffer cells, fibroblasts, osteoblasts, myeloid dendritic cells, retinal pigment epithelial cells and melanocytes, plus fetal chondrocytes and stratum basale keratinocytes. In mice, Osteoactivin is reported to bind to heparan sulfate-proteoglycan, possibly on the surface of endothelial cells and may also interact with integrins). It also appears to act as an inflammatory suppressor gene, as its expression downregulates the macrophage inflammatory response by inhibiting IL-6 and IL-12p40 production.

Tag	C-Fc
Form	Disulfide-linked homodimer
Bio-activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Integrin alpha V beta 3 is immobilized at 2 µg/mL (100 µL/well), Recombinant Cynomolgus Monkey/Rhesus Macaque Osteoactivin/GPNMB Fc Chimera binds with an ED50 of 0.750-9.00 µg/mL.
Molecular Mass	78 kDa
Endotoxin	< 0.1 EU/µg of the protein by the LAL method.
Purity	> 95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie Blue Staining.
N-terminal Sequence Analysis	Lys23
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.

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Storage Buffer	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
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Shipping	The product is shipped at ambient temperature.
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Reconstitution	Reconstitute at 500 µg/mL in PBS.
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GENE INFORMATION

Gene Name	GPNMB glycoprotein nmb [<i>Macaca fascicularis</i> (crab-eating macaque)]
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Official Symbol	GPNMB
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Synonyms	GPNMB; glycoprotein nmb; transmembrane glycoprotein NMB
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Gene ID	102133517
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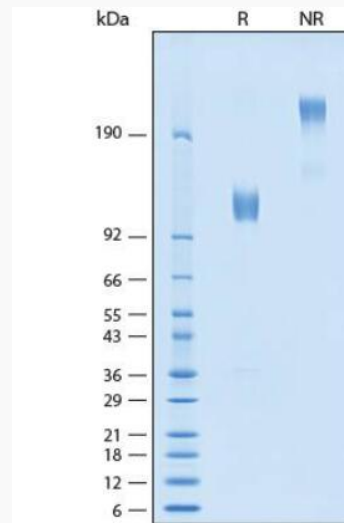
mRNA Refseq	XM_005549990
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Protein Refseq	XP_005550047
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SDS-PAGE

2 µg/lane of Recombinant Cynomolgus/Rhesus Osteoactivin/GPNMB Fc Chimera Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie Blue staining, showing bands at 111-122 kDa and 220-245 kDa, respectively.

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