

Osteoactivin/GPNMB Protein, Mouse, Recombinant (His)

General Information

Synonyms: ipd; glycoprotein (transmembrane) nmb; DC-HIL; Dchil

Protein Construction: A DNA sequence encoding the mouse GPNMB (Q99P91) (Met1-Asn502) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Lys 23

Species: Mouse

Expression Host: HEK293 Cells

Accession: Q99P91

Molecular Weight: 54.9 kDa (predicted); 96 kDa (reducing condition, due to glycosylation)

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.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

GPNMB belongs to the PMEL / NMB family, also known as Osteoactivin and Hematopoietic growth factor-inducible neuropeptide 1 (HGFIN), is a transmembrane glycoprotein that is expressed in numerous cells, including osteoclasts, macrophages, dendritic cells, and tumor cells. It is suggested to influence osteoblast maturation, cell adhesion, and migration. GPNMB protein acts as a downstream mediator of BMP-2 effects on osteoblast differentiation and function. GPNMB participates in bone mineralization and functions as a negative regulator of inflammation in

macrophages. Osteoactivin is expressed at high levels in normal and inflammatory liver macrophages suggesting a significant role in acute liver injury. The early-phase upregulation of Osteoactivin expression in the tubular epithelium in response to renal injury might play a role in triggering renal interstitial fibrosis via activation of matrix metalloproteinase expression and collagen remodeling in rats. Osteoactivin is a protein that is expressed in aggressive human breast cancers and is capable of promoting breast cancer metastasis to bone.

Reference

Pahl MV. et al., 2010, Clin J Am Soc Nephrol. 5(1): 56-61.
Abdelmagid SM. et al., 2008, Exp Cell Res. 314(13): 2334-51.
Haralanova-Ilieva B. et al., 2005, J Hepatol. 42(4): 565-72.
Abdelmagid SM. et al., 2007, J Cell Physiol. 210(1): 26-37.
Furochi H. et al., 2007, J Med Invest. 54(3-4): 248-54.

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