Recombinant Human NPRB/NPR2

Catalog Number: 9725-NR

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Arg23-Ile458, with a C-terminal 6-His tag Accession # P20594-1
N-terminal Sequence Analysis	Arg23
Predicted Molecular Mass	49 kDa

SPECIFICATIONS

SDS-PAGE	60-85 kDa, reducing conditions
Activity	Bioassay data are not available.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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 250 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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

Bioactivity not tested

The innovator Series. R&D Systems proteins are almost always sold with a bioassay to indicate activity. However, we recognize that sometimes proteins might be novel, and their bioactivity may not be well understood. In addition, some researchers may wish to use polypeptides to make antibodies. To facilitate the advancement of new science, we now offer our Innovator Series of proteins.

BACKGROUND

Human Natriuretic Peptide Receptor-2 (NPR2), also known as NPRB, ANP-RB or guanylyl Cyclase-B, is a member of the guanylyl cyclase family of proteins. NPR2 is a type I transmembrane glycoprotein that contains a 436 amino acid extracellular domain (ECD) (aa 23-458) for ligand binding, and a 569 amino acid cytoplasmic domain that contains both a protein kinase domain and a carboxyl-terminal guanylate cyclase domain. NPR2 is expressed most highly in in bone, brain, fibroblasts, heart, kidney, liver, lung, uterine, and vascular smooth muscle tissue (1). NPR2 operates as an oligomer and binds both ANP (atrial natriuretic peptide) and BNP (B type natriuretic peptide), and NPR2 is the principal receptor of CNP (C type natriuretic peptide) (1, 2). Ligand binding to the extracellular ligand binding domain, plus ATP to the intracellular kinase domain activates a cytoplasmic guanylate cyclase (2). NPR2 pathway play a critical role in regulation of skeletal growth (3), and patients with single defect NPR2 alleles are statistically shorter than the average population (4). Over the extracellular domain, human NPR2 is 97% and 96% identical to mouse and rat NPR2, respectively.

References:

1. Potter, L.R. *et al.* (2009) Handb Exp Pharmacol **191**:341.
2. Chang, M.S. *et al.* (1989) Nature **341**:68.
3. Tsuji, T. and Kunieda T. (2005) J Biol Chem **280**:14288.
4. Olney, R.C. *et al.* (2006) J Clin Endocrinol Metab **91**:1229.

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