

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human NPRB/NPR2 in direct ELISA.
Source	Monoclonal Mouse IgG _{2A} Clone # 1060722
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived human NPRB/NPR2 Arg23-Ile458 Accession # P20594
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

Flow Cytometry Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was HEK293 cells transfected with Human NPR2 and eGFP.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

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 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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