

DESCRIPTION

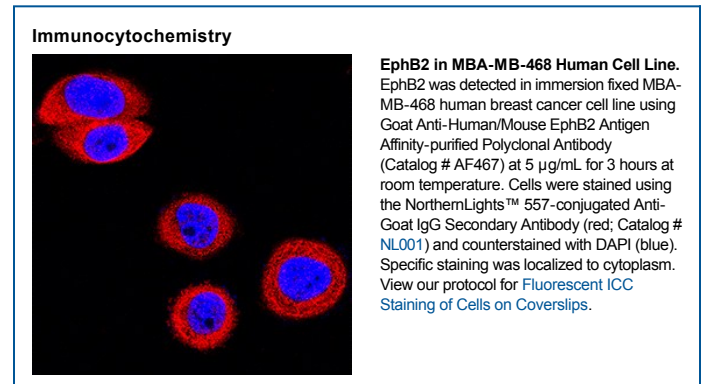
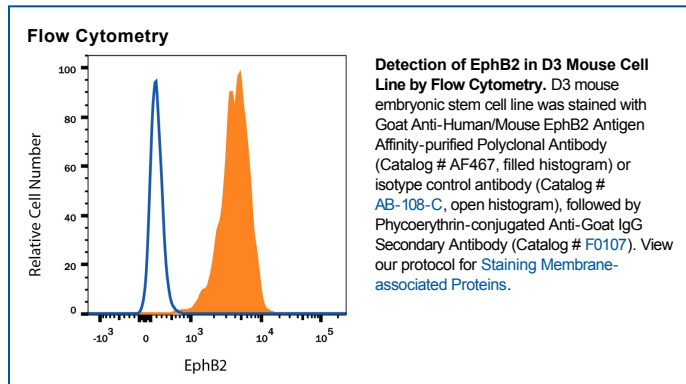
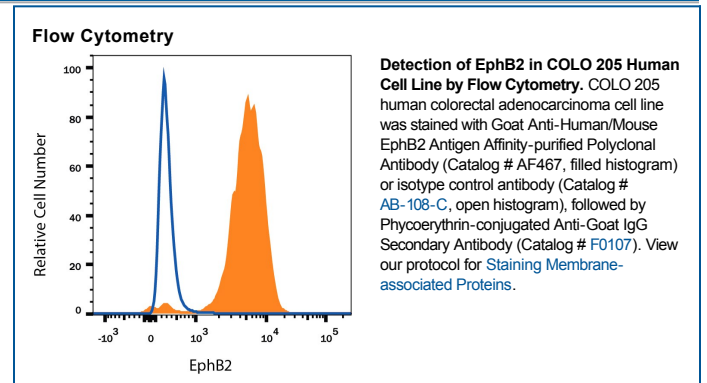
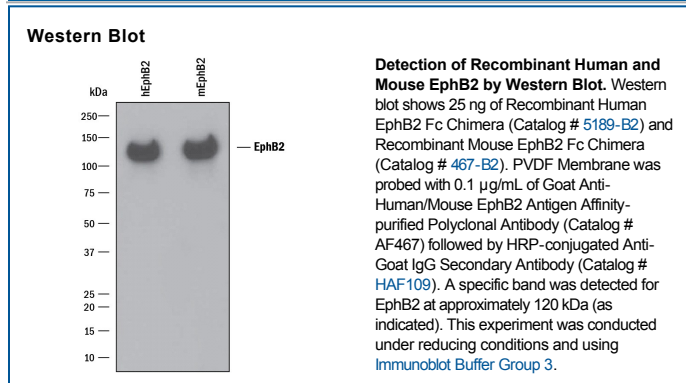
Species Reactivity	Human/Mouse
Specificity	Detects mouse and human EphB2 in direct ELISAs and Western blots. In Western blots, approximately 5% cross-reactivity with recombinant rat (rr) EphB1, recombinant mouse (rm) EphA8, rmEphA6, rmEphB6, rmEphA3, rmEphA4, rmEphA7, rrEphA5, recombinant human EphA1, rmEphA2 and rmEphB3 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse EphB2 Val27-Lys548 Accession # P54763
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

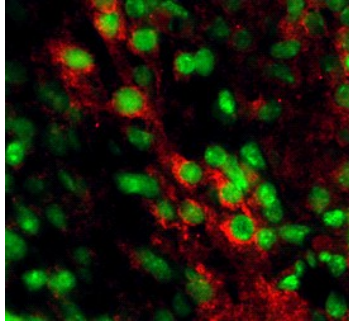
Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	See Below
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	1-15 µg/mL	See Below
Simple Western	20 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

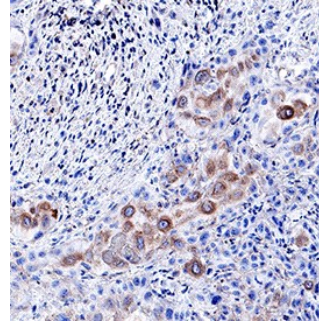


Immunohistochemistry



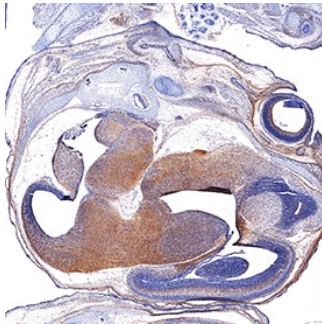
EphB2 in Embryonic Mouse Brain. EphB2 was detected in immersion fixed frozen sections of embryonic mouse brain (15 d.p.c.) using 15 µg/mL Goat Anti-Mouse EphB2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF467) overnight at 4 °C. Tissue was stained with the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained (green). View our protocol for [Fluorescent IHC Staining of Frozen Tissue Sections](#).

Immunohistochemistry



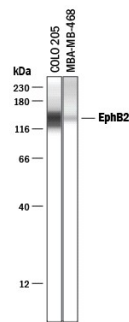
EphB2 in Human Esophageal Squamous Cell Carcinoma. EphB2 was detected in immersion fixed paraffin-embedded sections of human esophageal squamous cell carcinoma using Goat Anti-Human/Mouse EphB2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF467) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in cancer cells. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

Immunohistochemistry



EphB2 in Mouse Embryo. EphB2 was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c.) using Goat Anti-Human/Mouse EphB2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF467) at 1.7 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to developing brain. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

Simple Western



Detection of Human EphB2 by Simple Western™. Simple Western lane view shows lysates of COLO 205 human colorectal adenocarcinoma cell line and MBA-MB-468 human breast cancer cell line, loaded at 0.2 mg/mL. A specific band was detected for EphB2 at approximately 139 and 146 kDa (as indicated) using 20 µg/mL of Goat Anti-Human/Mouse EphB2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF467) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

EphB2, also known as Cek5, Nuk, Erk, Qek2, Tyro5, Sek3, Hek5, and Drt (1), is a member of the Eph receptor family which binds members of the ephrin ligand family. There are two classes of receptors, designated A and B. Both the A and B class receptors have an extracellular region consisting of a globular domain, a cysteine-rich domain, and two fibronectin type III domains. This is followed by the transmembrane region and the cytoplasmic region. The cytoplasmic region contains a juxtamembrane motif with two tyrosine residues which are the major autophosphorylation sites, a kinase domain, and a conserved sterile alpha motif (SAM) in the carboxy tail which contains one conserved tyrosine residue. Activation of kinase activity occurs after ligand recognition and binding. EphB2 has been shown to bind ephrin-B1, ephrin-B2, and ephrin-B3 (2, 3). The extracellular domains of human and mouse EphB2 share 99% amino acid identity. Only membrane-bound or Fc-clustered ligands are capable of activating the receptor *in vitro*. Soluble monomeric ligands bind the receptor but do not induce receptor autophosphorylation and activation (2). *In vivo*, the ligands and receptors display reciprocal expression (3). It has been found that nearly all the receptors and ligands are expressed in developing and adult neural tissue (3). The ephrin/Eph families also appear to play a role in angiogenesis (3).

References:

1. Eph Nomenclature Committee [letter] (1997) Cell **90**:403.
2. Flanagan, J.G. and P. Vanderhaeghen (1998) Annu. Rev. Neurosci. **21**:309.
3. Pasquale, E.B. (1997) Curr. Opin. Cell Biol. **9**:608.