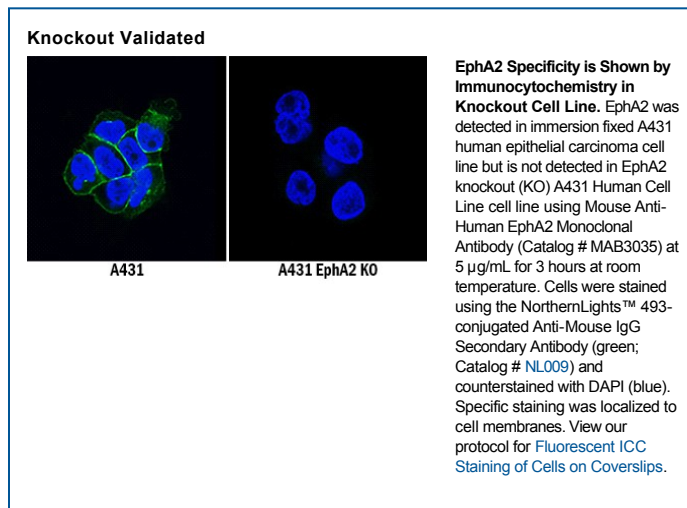
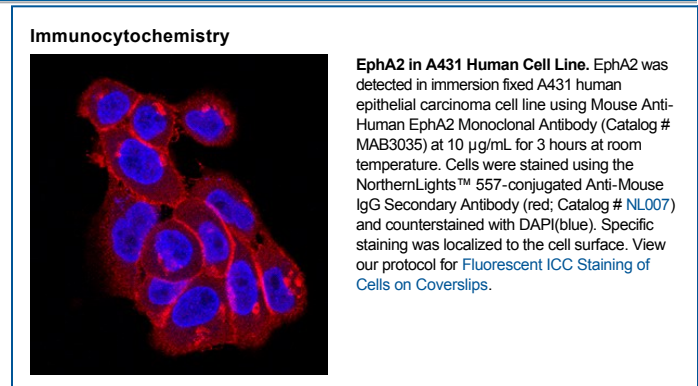
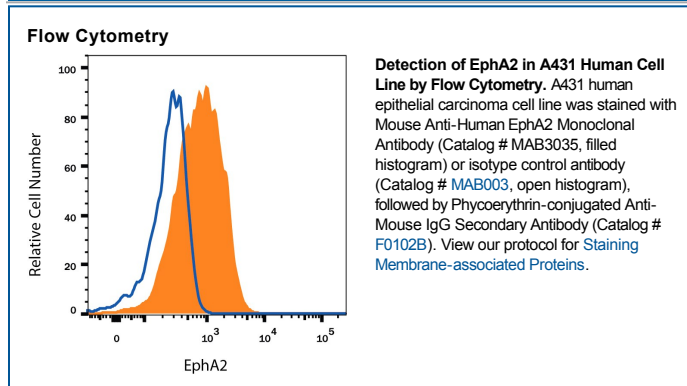


DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human EphA2 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse EphA4, A5, A6, A7, A8, or recombinant rat EphB1 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 371805
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human EphA2 Gln25-Asn534 Accession # P29317
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS	
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	Recommended Concentration Sample
Flow Cytometry	0.25 µg/10 ⁶ cells See Below
Immunocytochemistry	8-25 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.
Knockout Validated	EphA2 was detected in immersion fixed A431 human cell line but is not detected in EphA2 knockout (KO) A431 human cell line.

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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

EphA2, also known as Eck, Myk2, and Sek2, is a member of the Eph receptor tyrosine kinase family which binds Ephrins A1, 2, 3, 4, and 5 (1, 2, 3, 4). A and B class Eph proteins have a common structural organization. The human EphA2 cDNA encodes a 976 amino acid (aa) precursor including a 24 aa signal sequence, a 510 aa extracellular domain (ECD), a 24 aa transmembrane segment, and a 418 aa cytoplasmic domain. The ECD contains an N-terminal globular domain, a cysteine-rich domain, and two fibronectin type III domains (5). The cytoplasmic domain contains a juxtamembrane motif with two tyrosine residues, which are the major autophosphorylation sites, a kinase domain, and a sterile alpha motif (SAM) (5). The ECD of human EphA2 shares 90-94% aa sequence identity with mouse, bovine, and canine EphA2, and approximately 45% aa sequence identity with human EphA1, 3, 4, 5, 7, and 8. EphA2 becomes autophosphorylated following ligand binding (6, 7) and then interacts with SH2 domain-containing PI3-kinase to activate MAPK pathways (8, 9). Reverse signaling is also propagated through the Ephrin ligand. Transcription of EphA2 is dependent on the expression of E-Cadherin (10), and can be induced by p53 family transcription factors (11). EphA2 is upregulated in breast, prostate, and colon cancer vascular endothelium. Its ligand, EphrinA1, is expressed by the local tumor cells (12, 13). In some cases, EphA2 and EphrinA1 are expressed on the same blood vessels (14). EphA2 signaling cooperates with VEGF receptor signaling in promoting endothelial cell migration (13). The gene encoding human EphA2 maps to a region on chromosome 1 which is frequently deleted in neuroectodermal tumors (15).

References:

1. Poliakov, A. *et al.* (2004) *Dev. Cell* **7**:465.
2. Surawska, H. *et al.* (2004) *Cytokine Growth Factor Rev.* **15**:419.
3. Pasquale, E.B. (2005) *Nat. Rev. Mol. Cell Biol.* **6**:462.
4. Davy, A. and P. Soriano (2005) *Dev. Dyn.* **232**:1.
5. Bohme, B *et al.* (1993) *Oncogene* **8**:2857.
6. Pandey, A. *et al.* (1995) *Science* **268**:567.
7. Bartley, T.D. *et al.* (1994) *Nature* **368**:558.
8. Pandey, A. *et al.* (1994) *J. Biol. Chem.* **269**:30154.
9. Miao, H. *et al.* (2001) *Nat. Cell Biol.* **3**:527.
10. Orsulic, S. and R. Kemler (2000) *J. Cell Sci.* **113**:1793.
11. Dohn, M. *et al.* (2001) *Oncogene* **20**:6503.
12. Zelinski, D.P. *et al.* (2001) *Cancer Res.* **61**:2301.
13. Brantley, D.M. *et al.* (2002) *Oncogene* **21**:7011.
14. Ogawa, K. *et al.* (2000) *Oncogene* **19**:6043.
15. Sulman, E.P. *et al.* (1997) *Genomics* **40**:371.