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|--|------------------------|---|
| Store at -20C<br><br><br><br><br><br><br><br><br><br>#3980 | EphB1 (5F10) Mouse mAb |  |
|  |                        | <b>Orders:</b> 877-616-CELL (2355)<br>orders@cellsignal.com                         |
|  |                        | <b>Support:</b> 877-678-TECH (8324)   |
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| 3 Trask Lane   Danvers   Massachusetts   01923   USA       |                        |   |

For Research Use Only. Not for Use in Diagnostic Procedures.

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| W             | H           | Endogenous   | 130       | Mouse IgG1      | #P54762     | 2047            |

#### Product Usage Information

#### Application

Western Blotting

#### Dilution

1:1000

#### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

#### Specificity/Sensitivity

EphB1 (5F10) Mouse mAb detects endogenous levels of EphB1 protein. It does not cross-react with other family members.

#### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding amino acids 19-133 of human EphB1.

#### Background

The Eph receptors are the largest known family of receptor tyrosine kinases (RTKs). They can be divided into two groups based on sequence similarity and on their preference for a subset of ligands: EphA receptors bind to a glycosylphosphatidylinositol-anchored ephrin A ligand; EphB receptors bind to ephrin B proteins that have a transmembrane and cytoplasmic domain (1,2). Research studies have shown that Eph receptors and ligands may be involved in many diseases including cancer (3). Both ephrin A and B ligands have dual functions. As RTK ligands, ephrins stimulate the kinase activity of Eph receptors and activate signaling pathways in receptor-expressing cells. The ephrin extracellular domain is sufficient for this function as long as it is clustered (4). The second function of ephrins has been described as "reverse signaling", whereby the cytoplasmic domain becomes tyrosine phosphorylated, allowing interactions with other proteins that may activate signaling pathways in the ligand-expressing cells (5). Various stimuli can induce tyrosine phosphorylation of ephrin B, including binding to EphB receptors, activation of Src kinase, and stimulation by PDGF and FGF (6). Tyr324 and Tyr327 have been identified as major phosphorylation sites of ephrin B1 *in vivo* (7). EphB1 is a member of the Eph family of receptor tyrosine kinases that plays an important role in diverse biological processes including nervous system development, angiogenesis, and neural synapsis formation and maturation (8). Over- or underexpression of certain Eph receptors has been found in some cancer tissues. EphB1 has been shown to be involved in the tumorigenesis of colorectal cancer (9).

#### Background References

1. Wilkinson, D.G. (2000) *Int Rev Cytol* 196, 177-244.
2. Klein, R. (2001) *Curr Opin Cell Biol* 13, 196-203.
3. Dodelet, V.C. and Pasquale, E.B. (2000) *Oncogene* 19, 5614-9.
4. Holder, N. and Klein, R. (1999) *Development* 126, 2033-44.
5. Brückner, K. et al. (1997) *Science* 275, 1640-3.
6. Palmer, A. et al. (2002) *Mol Cell* 9, 725-37.
7. Kalo, M.S. et al. (2001) *J Biol Chem* 276, 38940-8.
8. Fasen, K. et al. (2008) *Traffic* 9, 251-266.
9. Sheng, Z. et al. (2008) *Pathobiology* 75, 274-280.

#### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

#### Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

#### Applications Key

W: Western Blotting

#### Cross-Reactivity Key

H: Human

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