Mouse EphA1 Alexa Fluor® 405-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 404517

Catalog Number: FAB30341V

100 µg

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse EphA1 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse EphA2, recombinant human (rh) EphA3, or rhEphA5 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 404517
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse EphA1 Glu27-Glu548 Accession # AAH71215
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.*

Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.

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

EphA1, also known as Eph and Esk, is a member of the Eph receptor tyrosine kinase family and binds several Ephrin-A ligands. The A and B class Eph proteins share a common structural organization (1-4). The mouse EphA1 cDNA encodes a 977 amino acid (aa) precursor that includes a 24 aa signal sequence, a 524 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 408 aa cytoplasmic domain. The ECD contains an N-terminal globular domain, a cysteine-rich domain, and two fibronectin type III domains. The cytoplasmic domain contains a juxtamembrane motif with two tyrosine residues which are the major autophosphorylation sites, a kinase domain, and a conserved sterile alpha motif (SAM) (5, 6). Within the ECD, mouse EphA1 shares 84% aa sequence identity with human EphA1, approximately 40% aa sequence identity with mouse EphA2, 3, 4, 6, 7, and 8, and 27% aa sequence identity with mouse EphA5. A splice variant of mouse EphA1 lacks the transmembrane segment and is predicted to exist as a soluble molecule (7). Membrane bound or clustered Ephrin ligands interact with EphA1 and activate its kinase domain which is capable of Ser, Thr, and Tyr phosphorylation (7). Reverse signaling is propagated through the Ephrin ligand. EphA1 is widely expressed in differentiated epithelial cells, particularly in bone marrow, spleen, thymus, and testes (5, 7). It is expressed on $CD4^+$ T cells but not on $CD19^+$ B cells (8). On T cells, EphA1 induces Tyr phosphorylation of PYK2 and promotes chemokine-induced chemotaxis (8). EphA1 is upregulated or downregulated in a variety of human carcinomas and is implicated in tumor invasiveness (2, 9, 10).

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