Human FGFR2 alpha Alexa Fluor® 488-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 1057960

Catalog Number: FAB111192G

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human FGFR alpha in direct ELISA.
Source	Monoclonal Mouse IgG_1 Clone # 1057960
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human FGFR2 alpha Arg22-Glu377 Accession # P21802.1
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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 KATO-III human gastric carcinoma cell line.

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

Fibroblast growth factor receptor 2 (FGFR2) belongs to a family of type I transmembrane tyrosine kinases which mediate the biological functions of FGFs that are involved in a multitude of physiological and pathological cellular processes (1). The FGFR family is comprised of 4 structurally conserved members (FGFR1-4) all possessing an extracellular domain (ECD) with three immunoglobulin (Ig)-like domains, an acid-box region containing a run of acidic residues between the IgI and IgII domains, a transmembrane domain and cytoplasmic split tyrosine-kinase domain (1, 2). The ECD of mature, full-length FGFR2 shares 95% amino acid sequence identity with mouse FGFR2. Alternative splicing generates multiple forms of FGFR1-3, each with unique signaling characteristics (1-3). For FGFR2, alternative splicing of the ECD, specifically the IgIII domain, results in IIIb, or IIIc isoforms (4). The FGFR splice variants also exhibit distinct and varying binding affinities for different FGF ligands (2, 4). Specifically, FGFR2A (IIIc) binds most FGF ligands but not the FGF10 subfamily, while FGFR2A (IIIc) binds only members of the FGF10 subfamily (5). FGFRs mediate the FGF signaling cascade which regulate developmental processes including cellular proliferation, differentiation, and migration, morphogenesis, and patterning (6). FGFRs transduce the signals through three dominant pathways including RAS/MAPK, PI3k/AKT, and PLCγ (7). While FGFR2 is widely expressed in many adult human tissues, isoform expression is tissue specific, with IIIb predominantly expressed in epithelial cells, while IIIc is expressed in mesenchymal cells (5). FGFR2 signaling is critical for embryonic development, tissue repair, and regulation of osteoblast function and bone growth (8). Mutations in FGFR2 or misregulation of FGFR2 mediated signaling is found in multiple skeletal dysplasias, with FGFR2A (IIIc) specifically upregulated in several cancers including prostate, breast and pancreatic and is proposed as a novel therapeutic target for colorectal carcinomas (6, 9).

References:

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