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Bi-Phospho-FGFR(Y653/654) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3104a

Product Information

Application	WB, IHC-P, E
Primary Accession	P11362
Other Accession	Q90Z00, P22182, Q04589, P16092, P21804
Reactivity	Human, Mouse
Predicted	Chicken, Rat, Xenopus, Zebrafish
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	91868

Additional Information

Gene ID	2260
Other Names	Fibroblast growth factor receptor 1, FGFR-1, Basic fibroblast growth factor receptor 1, BFGFR, bFGF-R-1, Fms-like tyrosine kinase 2, FLT-2, N-sam, Proto-oncogene c-Fgr, CD331, FGFR1, BFGFR, CEK, FGFBR, FLG, FLT2, HBGFR
Target/Specificity	This FGFR Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y653/654 of human FGFR.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Bi-Phospho-FGFR(Y653/654) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FGFR1
Synonyms	BFGFR, CEK, FGFBR, FLG, FLT2, HBGFR
Function	Tyrosine-protein kinase that acts as a cell-surface receptor for fibroblast

	growth factors and plays an essential role in the regulation of embryonic development, cell proliferation, differentiation and migration. Required for normal mesoderm patterning and correct axial organization during embryonic development, normal skeletogenesis and normal development of the gonadotropin-releasing hormone (GnRH) neuronal system. Phosphorylates PLCG1, FRS2, GAB1 and SHB. Ligand binding leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate. Phosphorylation of FRS2 triggers recruitment of GRB2, GAB1, PIK3R1 and SOS1, and mediates activation of RAS, MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Promotes phosphorylation of SHC1, STAT1 and PTPN11/SHP2. In the nucleus, enhances RPS6KA1 and CREB1 activity and contributes to the regulation of transcription. FGFR1 signaling is down-regulated by IL17RD/SEF, and by FGFR1 ubiquitination, internalization and degradation.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Nucleus. Cytoplasm, cytosol. Cytoplasmic vesicle. Note=After ligand binding, both receptor and ligand are rapidly internalized. Can translocate to the nucleus after internalization, or by translocation from the endoplasmic reticulum or Golgi apparatus to the cytosol, and from there to the nucleus
Tissue Location	Detected in astrocytoma, neuroblastoma and adrenal cortex cell lines. Some isoforms are detected in foreskin fibroblast cell lines, however isoform 17, isoform 18 and isoform 19 are not detected in these cells.

Background

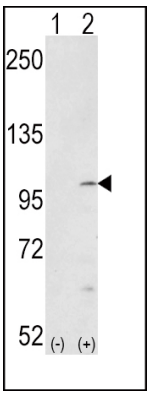
The protein encoded by this gene is a member of the fibroblast growth factor receptor family, where amino acid sequence is highly conserved between members and throughout evolution. FGFR family members differ from one another in their ligand affinities and tissue distribution. A full-length representative protein consists of an extracellular region, composed of three immunoglobulin-like domains, a single hydrophobic membrane-spanning segment and a cytoplasmic tyrosine kinase domain. The extracellular portion of the protein interacts with fibroblast growth factors, setting in motion a cascade of downstream signals, ultimately influencing mitogenesis and differentiation. This particular family member binds both acidic and basic fibroblast growth factors and is involved in limb induction. Mutations in this gene can lead to Pfeiffer syndrome and Jackson-Weiss syndrome. The genomic organization of this gene is very similar to family members 2-4, encompassing 19 exons that are subject to complex alternative splicing, which allows for structural, tissue expression and ligand affinity variations among the isoforms.

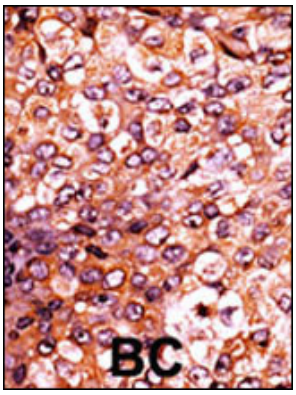
References

Hu, Y., et al., J. Biol. Chem. 279(28):29325-29335 (2004). Ibrahimi, O.A., et al., Biochemistry 43(16):4724-4730 (2004). Sato, N., et al., J. Clin. Endocrinol. Metab. 89(3):1079-1088 (2004). Lundin, L., et al., Exp. Cell Res. 287(1):190-198 (2003). Jiao, J., et al., Arch. Biochem. Biophys. 410(2):187-200 (2003).

Images

Western blot analysis of FGFR (arrow) using rabbit polyclonal Phospho-FGFR-pY653/4 (Cat. #AP3104a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the FGFR gene (Lane 2) (Origene Technologies).





Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Brachyury drives formation of a distinct vascular branchpoint critical for fetal-placental arterial union in the mouse gastrula.
- Short SULF1/SULF2 splice variants predominate in mammary tumours with a potential to facilitate receptor tyrosine kinase-mediated cell signalling.
- SULF1/SULF2 splice variants differentially regulate pancreatic tumour growth progression.
- Basic fibroblast growth factor in the bone microenvironment enhances cell motility and invasion of Ewing\'s sarcoma family of tumours by activating the FGFR1-PI3K-Rac1 pathway.