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FGFR4 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7639A

Product Information

Application	FC, IHC-P, WB, E
Primary Accession	P22455
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	87954
Antigen Region	24-55

Additional Information

Gene ID	2264
Other Names	Fibroblast growth factor receptor 4, FGFR-4, CD334, FGFR4, JTK2, TKF
Target/Specificity	This FGFR4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 24-55 amino acids from the N-terminal region of human FGFR4.
Dilution	FC~~1:10~50 IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
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	FGFR4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FGFR4
Synonyms	JTK2, TKF
Function	Tyrosine-protein kinase that acts as a cell-surface receptor for fibroblast growth factors and plays a role in the regulation of cell proliferation,

	differentiation and migration, and in regulation of lipid metabolism, bile acid biosynthesis, glucose uptake, vitamin D metabolism and phosphate homeostasis. Required for normal down- regulation of the expression of CYP7A1, the rate-limiting enzyme in bile acid synthesis, in response to FGF19. Phosphorylates PLCG1 and FRS2. 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 SRC-dependent phosphorylation of the matrix protease MMP14 and its lysosomal degradation. FGFR4 signaling is down-regulated by receptor internalization and degradation; MMP14 promotes internalization and degradation of FGFR4. Mutations that lead to constitutive kinase activation or impair normal FGFR4 inactivation lead to aberrant signaling.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Endosome. Endoplasmic reticulum. Note=Internalized from the cell membrane to recycling endosomes, and from there back to the cell membrane
Tissue Location	Expressed in gastrointestinal epithelial cells, pancreas, and gastric and pancreatic cancer cell lines

Background

FGFR4 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 would consist 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. The genomic organization of the gene, compared to members 1-3, encompasses 18 exons rather than 19 or 20. Although alternative splicing has been observed, there is no evidence that the C-terminal half of the IgIII domain of this protein varies between three alternate forms, as indicated for members 1-3. This particular family member preferentially binds acidic fibroblast growth factor and, although its specific function is unknown, it is overexpressed in gynecological tumor samples, suggesting a role in breast and ovarian tumorigenesis.

References

References for protein:
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2.Qian, Z.R., et al., J. Clin. Endocrinol. Metab. 89(4):1904-1911 (2004).
3.Yu, S., et al., J. Biol. Chem. 278(22):19597-19602 (2003).
4.Becker, N., et al., Cancer Epidemiol. Biomarkers Prev. 12(6):582-583 (2003).
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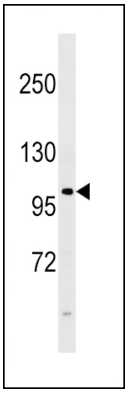
References for HeLa cell line:
1. Scherer WF, Syverton JT, Gey GO (May 1953). "Studies on the propagation in vitro of poliomyelitis viruses. IV. Viral multiplication in a stable strain of human malignant epithelial cells (strain HeLa) derived from an epidermoid carcinoma of the cervix". J. Exp. Med. 97 (5): 695–710. [PubMed:13052828].

2. Macville M, Schr□ck E, Padilla-Nash H, Keck C, Ghadimi BM, Zimonjic D, Popescu N, Ried T (January 1999). "Comprehensive and definitive molecular cytogenetic characterization of HeLa cells by spectral karyotyping". Cancer Res. 59 (1): 141–50. [PubMed: 9892199].
3. Rahbari R, Sheahan T, Modes V, Collier P, Macfarlane C, Badge RM (April 2009). "A novel L1 retrotransposon marker for HeLa cell line identification". BioTechniques 46 (4): 277–84. [PubMed:

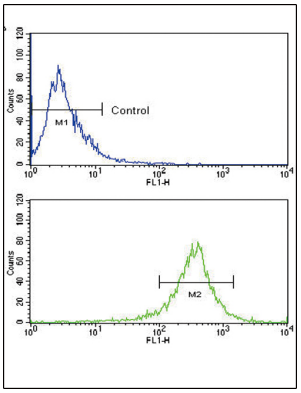
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4. Capes-Davis A, Theodosopoulos G, Atkin I, Drexler HG, Kohara A, MacLeod RA, Masters JR, Nakamura Y, Reid YA, Reddel RR, Freshney RI (July 2010). "Check your cultures! A list of cross-contaminated or misidentified cell lines". Int. J. Cancer 127 (1): 1–8. [PubMed:20143388].

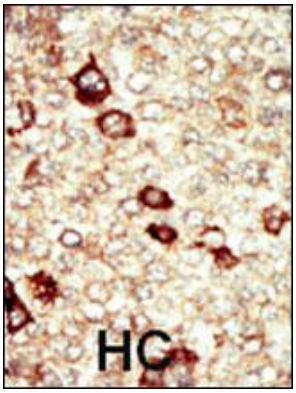
Images



FGFR4 Antibody (E39) (Cat. #AP7639a) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the FGFR4 antibody detected the FGFR4 protein (arrow).



Flow cytometric analysis of WiDr cells using FGFR4 Antibody (N-term) (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



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.

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