Revision 1

Store at -20C

#3163

FGF Receptor 3 (D2G7E) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
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cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	125, 145	Rabbit IgG	#P22607	2261

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

FGF Receptor 3 (D2G7E) Rabbit mAb detects endogenous levels of FGF Receptor 3 protein. This antibody does not cross-react with other related family members.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a GST-FGFR3 cytoplasmic domain fusion protein.

Background

Fibroblast growth factors (FGFs) produce mitogenic and angiogenic effects in target cells by signaling through cell surface receptor tyrosine kinases. There are four members of the FGF receptor family: FGFR1 (flg), FGFR2 (bek, KGFR), FGFR3, and FGFR4. Each receptor contains an extracellular ligand-binding domain, a transmembrane domain, and a cytoplasmic kinase domain (1). Following ligand binding and dimerization, the receptors are phosphorylated at specific tyrosine residues (2). Seven tyrosine residues in the cytoplasmic tail of FGFR1 can be phosphorylated: Tyr463, 583, 585, 653, 654, 730, and 766. Tyr653 and Tyr654 are important for catalytic activity of activated FGFR and are essential for signaling (3). The other phosphorylated tyrosine residues may provide docking sites for downstream signaling components, such as Crk and PLCγ (4,5).

Activating mutations within fibroblast growth factor receptor 3 (FGFR3) are responsible for human skeletal dysplasias including achondroplasia and the neonatal lethal syndromes thanatophoric dysplasia types I and II (6). Several of these same FGFR3 mutations as well as overexpression of FGFR3 proteins have also been identified somatically in human cancers, including multiple myeloma, bladder carcinoma and cervical cancer (7). Thus, FGFR3 may represent a potential target for therapy.

Background References

1. Powers, C.J. et al. (2000) *Endocr Relat Cancer* 7, 165-97.
2. Reilly, J.F. et al. (2000) *J Biol Chem* 275, 7771-8.
3. Mohammadi, M. et al. (1996) *Mol Cell Biol* 16, 977-89.
4. Mohammadi, M. et al. (1991) *Mol Cell Biol* 11, 5068-78.
5. Larsson, H. et al. (1999) *J Biol Chem* 274, 25726-34.
6. Wilkie, A.O. et al. (2002) *Am J Med Genet* 112, 266-78.
7. Miyake, M. et al. (2007) *Biochem Biophys Res Commun* 362, 865-71.

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 **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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Limited Uses

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