CELL APPLICATIONS, INC.

Fibroblast Growth Factor 7 Antibody

Cat. No. CA0853

Applications:	**WB, IHC**
Detected MW:	**26 kDa**
Species & Reactivity:	**Human, Mouse, Rat, Rabbit**
Isotype:	**Rabbit IgG**

BACKGROUND

FGFs comprise a large family of proteins that includes at least 22 known members. FGFs bind and signal through low and high affinity FGF receptors. The four known high affinity receptors (FGFR1–4) are structurally similar transmembrane receptor tyrosine kinases. FGF family members possess broad mitogenic and cell survival activities, and are involved in a variety of biological processes, including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth and invasion.[1]

FGF7, also known as keratinocyte growth factor, or KGF, is a 28kDa member of the FGF Family. Amongst the known FGFs, FGF7 and FGF10 are unusual in that they have a stromal origin and appear to act specifically on epithelial cells and are therefore exclusively paracrine growth factors. This is in contrast to other family members, such as FGF1 and FGF2, which target fibroblasts as well as epithelial cells and may act in both an autocrine and paracrine fashion. FGF7 binds and activates a splice variant of the FGF receptor (FGFR) 2. Alternative splicing of the C-terminal half of the third immunoglobulin-like domain changes the ligand-binding properties for FGFR2, leading to FGFR2-IIIb binding specifically to FGF10 and FGF7, and FGFR2-IIIc interacting preferentially with FGF1 and FGF2. Whereas epithelial cells express FGFR2-IIIb, cells of mesenchymal origin express FGFR2-IIIc and this is found to be the case in most epithelial organs, including the breast.[2]

FGF7 has been demonstrated to be an active stimulus in wound healing and highly expressed in keratinocytes. FGF7 is expressed in other epithelial tissues, including gastrointestinal epithelium, transitional urothelial cells, and type II pneumocytes. Its expression is increased in the setting of inflammatory bowel disease, has been proposed as a potential tumor marker, and has been shown to protect epithelial cells from toxicity from reactive oxygen derivatives. Moreover, FGF7 plays critical role in maintaining gastric mucosa integrity, and FGF7 protein levels are regulated mainly by posttranscriptional mechanisms. The elevated FGF7 protein levels in gastric inflammation and gastric cancer, together with the known oncogenic potential of FGF7, implicate excessive FGF7 signaling in gastric tumorigenesis, and point to FGF7 as an attractive target for gastric cancer prevention and treatment.[3] Additionally, FGF7 has been considered as an agent to treat oral mucositis. It was shown that FGFR2b/FGF7 signaling regulates terminal bud proliferation and branching of salivary glands in organ culture.

References:

1. Turner, N. & Grose, R.: Nat. Rev. Cancer 10:116-29, 2010
2. Palmieri, C. et al: J. Endocrinol. 177:65-81, 2003
3. Shaoul, R. et al: Biochem. Biophy. Res. Commun. 350:825-33, 2006

TECHNICAL INFORMATION

Source:
Anti-FGF7 is produced in rabbits immunized with a synthetic peptide corresponding to a sequence mapping at the C-terminal of human FGF7, different from the related mouse sequence by single amino acid. FGF7-specific antibody was purified by peptide affinity chromatography.

Specificity and Sensitivity: Anti-FGF7 reacts specifically with FGF7 of human, rabbit, mouse & rat origin in Immunostaining and western blotting, no cross-reactivity with other members of the family.

Storage Buffer: PBS and 50% glycerol.

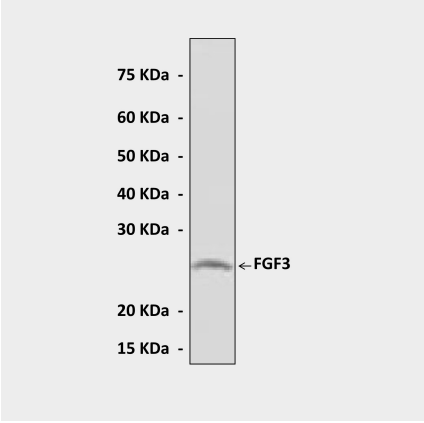
Storage: Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

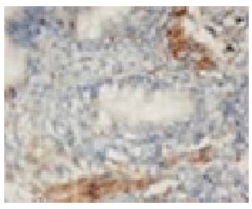
APPLICATIONS

Application:	*Dilution:
WB	1:500 – 1:1000
IP	n/d
IHC	1:50 – 1:200
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA





Top: Detection of FGF7 from rat oval tissue lysate in Western blot assay, using Anti-FGF7. **Bottom:** Immunohistochemical staining of paraffin-embedded human uterus cancer tissue, using Anti-FGF7.