

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human FGF-3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) FGF-4, -5, -6, -7, -9, -10, -11, -12, -16, -17, -18, -19, -20, -21, -23, rhFGF acidic, rhFGF ba                                 |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2A</sub> Clone # 254625                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human FGF-3<br>Asp28-Arg212<br>Accession # P11487                                                                                                                                                                                       |
| <b>Conjugate</b>          | Alexa Fluor 750<br>Excitation Wavelength: 749 nm<br>Emission Wavelength: 775 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Neutralization</b>       | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Fibroblast Growth Factor 3 (FGF-3) belongs to the large FGF family which has at least 23 members (1, 2). All FGF family members are heparin-binding growth factors with a core 120 amino acid (aa) FGF domain that allows for a common tertiary structure. FGFs are expressed during embryonic development and in restricted adult tissues. They act on cells of mesodermal and neuroectodermal origin to regulate diverse physiologic functions including angiogenesis, cell growth, pattern formation, embryonic development, metabolic regulation, cell migration, neurotrophic effects and tissue repair (3, 4). Signaling receptors for FGFs are type I transmembrane receptor tyrosine kinases belonging to the Ig superfamily. Four distinct but related classes of FGF receptors, FGF R1, 2, 3, and 4, exist. Through alternative splicing, multiple isoforms for FGF R1, 2 and 3, with distinct ligand recognition profiles, are also generated (4).

The *FGF-3* gene, originally designated *int-2*, was first identified as a proto-oncogene activated in mouse mammary tumors by proviral integration (2). Amplification of this gene has also been found frequently in human tumors. Human FGF-3 cDNA predicts a 239 aa precursor protein with a 17 aa signal peptide and a 222 aa secreted mature protein with one potential N-linked glycosylation site (1). Human and mouse FGF-3 share 88% aa sequence identity. The *Xenopus* and mammalian secreted FGF-3 are processed proteolytically at both the N- and C-terminus (5). FGF-3 binds with high-affinity to the IIIb isoforms of FGF R1 and FGF R2. FGF-3 also binds the IIIc isoform of FGF R2, but with lower affinity (6). FGF-3 has been implicated in the induction of inner ear development (7). Studies have suggested that FGF-3 and FGF-8 function synergistically in otic placode induction and during neuronal development to regulate dorsoventral axis formation (8 - 10). During development, the activities of FGF-3 and FGF-8 are regulated negatively by the sprouty family proteins and by Sef (similar expression to *fgf* genes), a transmembrane protein that shares intracellular sequence similarities with the IL-17 receptor (10).

## PRODUCT SPECIFIC NOTICES

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