

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                            |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human FRAT2 in direct ELISAs.                                                            |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                             |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                        |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human FRAT2<br>Ser31-Leu233 (Ala83Thr)<br>Accession # O75474 |
| <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                                     |
| *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.

**Immunocytochemistry** 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

FRAT2 (Frequently Rearranged in Advanced T-cell lymphomas-2; also GSK-3-binding protein FRAT2) is an intracellular member of the GSK-3-binding protein family. Although its predicted MW is 28 kDa, due to its highly acidic nature, it runs anomalously at 35 kDa in SDS-PAGE. It is widely expressed, and plays a key role in the regulation of the Wnt signaling pathway. Typically, in the absence of stimulation, GSK-3β and β-catenin associate with Axin, where GSK-3β phosphorylates β-catenin, leading to its turnover. Upon Wnt stimulation, GSK-3β phosphorylation of β-catenin is decoupled, resulting in β-catenin mediated gene activation. FRAT2 has the same effect as Wnt stimulation on GSK-3β activity, serving as a non-Wnt activator of β-catenin. It does so by promoting the dissociation of GSK-3β from axin. It also interacts with Diversin, a participant in JNK signaling. This suggests that FRAT2 plays a role in both Wnt/β-catenin and PCP signaling pathways. Human FRAT2 is 233 amino acids (aa) in length. It contains an N-terminal acidic domain (aa 1-54), a Pro-rich segment (aa 60-107) and a GSK-3β binding region (aa 171-196). Over aa 31-233, human FRAT2 shares 73% aa sequence identity with both mouse FRAT2 and human FRAT1.

#### PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.