

## 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 350<br>Excitation Wavelength: 346 nm<br>Emission Wavelength: 442 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.

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