Human FRAT2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7980

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human FRAT2 in direct ELISAs.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human FRAT2 Ser31-Leu233 (Ala83Thr) Accession # O75474
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

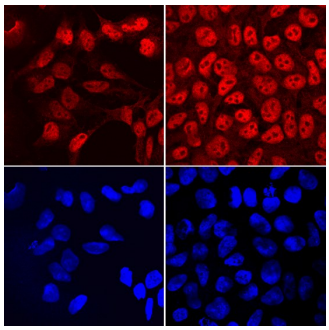
APPLICATIONS

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.*

	Recommended Concentration	Sample
Immunocytochemistry	5-15 µg/mL	See Below

DATA

Immunocytochemistry



FRAT2 in NTera-2 Human Cell Line. FRAT2 was detected in immersion fixed NTera-2 human testicular embryonic carcinoma cell line cultured with (left panels) and without (right panels) 10µM retinoic acid for 4 days using Sheep Anti-Human FRAT2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7980) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red, upper panels; Catalog # NL010) and counterstained with DAPI (blue, lower panels). Specific staining was localized to nuclei. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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