Technical Data Sheet

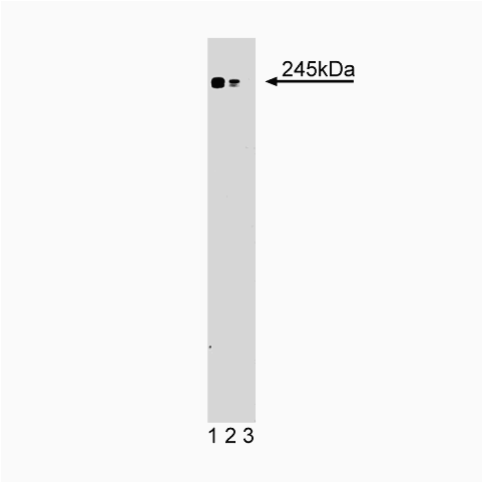
# Purified Mouse Anti-RAFT1/FRAP

## Product Information

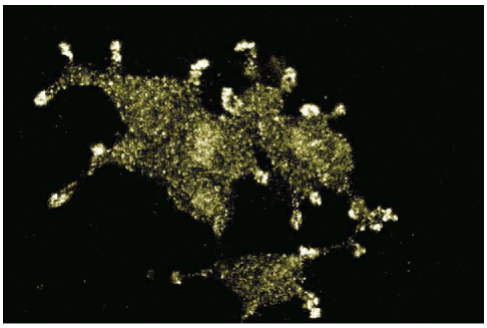
| | |
|---|---|
| **Material Number:** | **611133** |
| **Alternate Name:** | Rapamycin And FKBP12 Target-1 |
| **Size:** | 150 µg |
| **Concentration:** | 250 µg/ml |
| **Clone:** | 30/RAFT1 |
| **Immunogen:** | Rat RAFT1 aa. 185-290 |
| **Isotype:** | Mouse IgG1 |
| **Reactivity:** | QC Testing: Rat<br>Tested in Development: Human, Mouse, Chicken |
| **Target MW:** | 245 kDa |
| **Storage Buffer:** | Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide. |

## Description

Immunosuppressive agents such as cyclosporin A, FK506, and rapamycin are used routinely in clinical transplantation and the treatment of autoimmune disorders. Cyclosporin A and FK506 bind to cyclophilins and the FK-binding protein FKBP12, respectively. These complexes interact with, and inhibit the activity of, the calcineurin protein phosphatase, which is essential for T cell activation. Rapamycin also interacts with FKBP12, but this complex does not affect calcineurin. Instead, it inhibits signals required for G1 to S progression in yeast, in IL-2-stimulated T lymphocytes, and other mammalian cell types. Rapamycin-FKBP12 binds to a protein designated Rapamycin And FKBP12 Target-1 (RAFT1) in rats and FKBP-Rapamycin-Associated Protein (FRAP) in humans. RAFT1 is the homolog of the yeast genes TOR1 and TOR2 which, when mutated, lead to rapamycin resistance. RAFT1 is a PI4-kinase that exhibits homology with other PI kinases such as PI3-kinase and PI4-Kα. RAFT1 phosphorylates p70 S6 kinase and 4E-BP1 which are regulators of translational initiation. However, rapamycin-FKBP1 does not inhibit PI4-kinase activity and, therefore, affects RAFT1 activity via alternate mechanisms.




***Western blot analysis of RAFT1 on PC12 lysate.*** *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of RAFT1.*



***PC12***

## Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

## Application Notes

**Application**

| | |
|---|---|
| Western blot | Routinely Tested |
| Immunofluorescence | Tested During Development |

**BD Biosciences**

**bdbiosciences.com**

| United States | Canada | Europe | Japan | Asia Pacific | Latin America/Caribbean |
|---|---|---|---|---|---|
| 877.232.8995 | 888.259.0187 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 55.11.5185.9995 |

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 554002 | HRP Goat Anti-Mouse Ig | 1.0 ml | (none) |
| 611454 | PC12 Cell Lysate | 500 µg | (none) |

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

## References


Alarcon CM, Cardenas ME, Heitman J. Mammalian RAFT1 kinase domain provides rapamycin-sensitive TOR function in yeast. *Genes Dev.* 1996; 10(3):279-288.(Biology)

Burnett PE, Barrow RK, Cohen NA, Snyder SH, Sabatini DM. RAFT1 phosphorylation of the translational regulators p70 S6 kinase and 4E-BP1. *Proc Natl Acad Sci U S A.* 1998; 95(94):1432-1437.(Biology)

Castedo M, Ferri KF, Blanco J. Human immunodeficiency virus 1 envelope glycoprotein complex-induced apoptosis involves mammalian target of rapamycin/FKBP12-rapamycin-associated protein-mediated p53 phosphorylation. *J Exp Med.* 2001; 194(8):1097-1110.(Clone-specific: Immunofluorescence, Western blot)

Sabatini DM, Erdjument-Bromage H, Lui M, Tempst P, Snyder SH. RAFT1: a mammalian protein that binds to FKBP12 in a rapamycin-dependent fashion and is homologous to yeast TORs. *Cell.* 1994; 78(1):35-43.(Biology)

Sabatini DM, Pierchala BA, Barrow RK, Schell MJ, Snyder SH. The rapamycin and FKBP12 target (RAFT) displays phosphatidylinositol 4-kinase activity. *J Biol Chem.* 1995; 270(36):20875-20878.(Biology)