S6 Ribosomal Protein (54D2)
Mouse mAb

Applications
- W, IHC-P, IF-IC, F
- Endogenous

Species Cross-Reactivity
- H, M, R, Mk, Dm
- Endogenous

Molecular Wt.
32 kDa

Isotype
- Mouse IgG1**

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

Background: One way that growth factors and mitogens effectively promote sustained cell growth and proliferation is by upregulating mRNA translation (1,2). Growth factors and mitogens induce the activation of p70 S6 kinase and the subsequent phosphorylation of the S6 ribosomal protein. Phosphorylation of S6 ribosomal protein correlates with an increase in translation of mRNA transcripts that contain an oligopyrimidine tract in their 5' untranslated regions (2). Those particular mRNA transcripts (5'TOP) encode proteins involved in cell cycle progression, as well as ribosomal proteins and elongation factors necessary for translation (2,3). Important S6 ribosomal protein phosphorylation sites include several residues (Ser235, Ser236, Ser240, and Ser244) located within a small, carboxy-terminal region of the S6 protein (4,5).

Specificity/Sensitivity: S6 Ribosomal Protein (54D2) Mouse mAb detects endogenous levels of total S6 ribosomal protein independent of phosphorylation.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a recombinant fusion protein corresponding to full-length human S6 ribosomal protein.

Background References:

Recommended Antibody Dilutions:
- Western blotting 1:1000
- Immunohistochemistry (Paraffin) 1:100
- Antibody diluent: SignalStain® Antibody Diluent #8112
- Flow Cytometry 1:25

Storage:
- Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-mouse secondary antibodies must be used to detect this antibody.

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Immunohistochemical analysis of paraffin-embedded human colon carcinoma, using S6 Ribosomal Protein (54D2) Mouse mAb.

Immunohistochemical analysis of paraffin-embedded human breast carcinoma, showing cytoplasmic localization, using S6 Ribosomal Protein (54D2) Mouse mAb.

Immunohistochemical analysis of paraffin-embedded human lung carcinoma, using S6 Ribosomal Protein (54D2) Mouse mAb.

Immunohistochemical analysis of paraffin-embedded LNCaP cells, using S6 Ribosomal Protein (54D2) Mouse mAb.

Confocal immunofluorescent images of HeLa cells labeled with S6 Ribosomal Protein (54D2) Mouse mAb (red, left) compared to an isotype control (right). Actin filaments have been labeled with fluorescein phalloidin. Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Flow cytometric analysis of NIH/3T3 cells, using S6 Ribosomal Protein (54D2) Mouse mAb (blue) compared to a nonspecific negative control antibody (red).