Phospho-Stat3 (Tyr705) (M9C6) Mouse mAb

For Research Use Only. Not For Use In Diagnostic Procedures.

**Background:** The Stat3 transcription factor is an important signaling molecule for many cytokines and growth-factor receptors (1) and is required for murine fetal development (2). Stat3 is constitutively activated in a number of human tumors (3,4) and possesses oncogenic potential (5) and anti-apoptotic activities (3). Stat3 is activated by phosphorylation at Tyr705, which induces dimerization, nuclear translocation and DNA binding (6,7). Transcriptional activation seems to be regulated by phosphorylation at Ser727 through the MAPK or mTOR pathways (8,9). Stat3 isoform expression appears to reflect biological function as the relative expression levels of Stat3β (79 kDa) and Stat3β (79 kDa) depend on cell type, ligand exposure or cell maturation stage (10). It is notable that Stat3β lacks the serine phosphorylation site within the carboxy-terminal transcriptional activation domain (8).

**Specificity/Sensitivity:** Phospho-Stat3 (Tyr705) (M9C6) Mouse mAb detects endogenous levels of Stat3 only when phosphorylated at Tyr705. This antibody does not cross-react with phospho-EGFR or the corresponding phospho-tyrosines of other Stat proteins.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr705 of mouse Stat3.

**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.**

**Recommended Antibody Dilutions:**
- Western blotting: 1:2000
- Immunoprecipitation: 1:100
- Immunohistochemistry (Paraffin): 1:50-1:200
- Unmasking buffer:
  - EDTA Antibody diluent:
  - SignalStain® Antibody Diluent #8112
- Immunofluorescence (IF-IC): 1:50-1:200
- IF Protocol:
  - Methanol Permeabilization required
- Flow Cytometry: 1:100-1:400

For application specific protocols please see the web page for this product at www.cellsignal.com.

**Background References:**

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

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E—ELISA-Peptide

**Species Cross-Reactivity Key:**
- **H**—Human
- **M**—Mouse
- **R**—Rat
- **Hm**—Hamster
- **Mk**—Monkey
- **C**—Chicken
- **Dm**—D. melanogaster
- **X**—Xenopus
- **Sc**—Saccharomyces
- **Ce**—Caenorhabditis
- **Hr**—Horse
- **Al**—All species expected

Species enclosed in parentheses are predicted to react based on 100% homology.
Flow cytometric analysis of Jurkat cells, untreated (blue) or IFN-α treated (green), using Phospho-Stat3 (Tyr705) (M9C6) Mouse mAb.

Immunohistochemical analysis of paraffin-embedded human breast carcinoma using Phospho-Stat3 (Tyr705) (M9C6) Mouse mAb.

Immunohistochemical analysis using Phospho-Stat3 (Tyr705) (M9C6) Mouse mAb on SignalSlide® HeLa -/+ IFNa IHC Controls #55861 (paraffin-embedded HeLa cell pellets, untreated (left) or treated with Human Interferon-α1 (hIFN-α1) #6927 (right)).