

BACKGROUND

Signal transducers and activators of transcription (STATs) comprise a unique family of transcription factors, which transmit the interactions of cytokines, hormones and growth factors with their cell surface receptors into transcriptional programs. The mechanism of STAT activation has been well-established and comprises tyrosine phosphorylation, dimerization, nuclear translocation, binding to specific DNA response elements, recruitment of co-activators or co-repressors, and transcriptional induction or repression of target genes.¹ STAT3, a member of STAT family, has been known as a mediator for gene expression induced by many important cytokines and growth factors.² It plays diversified roles in cell growth, differentiation, apoptosis, oncogenesis, and stem cell renewal. Stat3 is constitutively activated in many human cancers, where it functions as a critical mediator of oncogenic signaling.³ Thus, Stat3 is also a target for cancer therapy.

References:

1. Desrivieres, S. et al., J Mammary Gland Biol Neoplasia. 11:75, 2006
2. Fu, XY, Cell Res. 16:214, 2006.
3. Jing, N. & Tweardy, DJ., Anticancer Drugs. 16:601, 2005.

TECHNICAL INFORMATION

Source: Anti-Stat3 is a mouse monoclonal antibody raised against recombinant human Stat3 protein.

Specificity and Sensitivity: Anti-Stat3 reacts with human, mouse, & rat Stat3 in Western Blot applications.

Storage Buffer: PBS and 30% Glycerol.

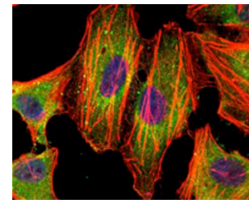
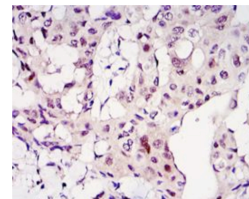
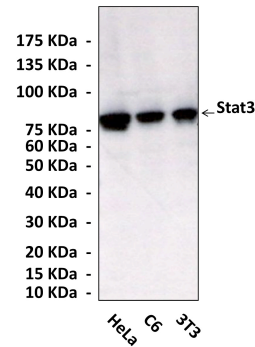
Storage: Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	n/d
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Top: Specific detection of Stat3 proteins from various cell lysates in Western blot analysis using Stat3 Monoclonal Antibody. **Middle:** Immunohistochemical analysis of paraffin-embedded mammary cancer tissues using Stat3 mouse mAb with DAB staining. **Bottom:** Immunofluorescent analysis of HeLa cells using Stat3 mouse monoclonal antibody (Stat3 Antibody: Green; DRAQ5 fluorescent DNA dye: Blue; Actin filaments labeled with Alexa Fluor-555 phalloidin: Red)

