



Qty: 100 µg/200 µL

Mouse anti-SOCS-3

Catalog No. 37-7200

Lot No.

Mouse anti-SOCS-3

FORM

This monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A affinity.

CLONE: 1B2

ISOTYPE: Mouse IgG₁-kappa

IMMUNOGEN

Synthetic peptide derived from the N-terminal region of the mouse SOCS-3 protein, which shares 96% identity with human SOCS-3.

SPECIFICITY

This antibody is specific for the N-terminal region of the mouse SOCS-3 protein. On Western blots, it identifies a band at ~25-30 kDa.

REACTIVITY

Reactivity has been confirmed with SOCS-3 transfected HEK293 cells, human MOLT-4 cells, and mouse brain homogenates.

Sample	ELISA	Western Blotting
Human	ND	+++
Mouse	ND	+++
Immunogen	+++	ND

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1-1.0 µg/mL
Western Blotting: 1-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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(Rev 10/08) DCC-08-1089

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BACKGROUND

The suppressor of cytokine signaling (SOCS) family of proteins is one of three recognized classes of regulators responsible for the inhibition of cytokines, along with the protein tyrosine phosphatases SHP1 and SHP2 and the protein inhibitors of activated STATs (PIAS). Socs genes and their protein products are known to play essential roles in a classic negative feedback loop with cytokines: Socs genes are induced by cytokines to express SOCS proteins, which then inhibit cytokine-induced signaling, including Ras, PI3K, and STAT pathways.¹ SOCS proteins contain an N-terminal region of variable length, a central SH2 domain, and a C-terminal "SOCS box."

SOCS 3 is capable of inhibiting cytokine signaling by Epo, prolactin, growth hormone (GH), interleukin-2 (IL-2), IL-3, IL-6, IL-11, leptin, ciliary neurotrophic factor, and leukemia inhibitory factor.² The SH2 domain of SOCS 3 is known to interact with the cytoplasmic domains of phosphorylated growth hormone receptor (GHR),³ leptin receptor (LRb),⁴ insulin growth factor I receptor (IGF-IR),⁵ and the gp130 common receptor subunit,⁶ where it is required for inhibitory activity.² Several mechanisms, not mutually exclusive, have been identified in the negative regulation of cytokine signaling by SOCS proteins: inhibition of Janus tyrosine kinase (JAK) catalytic activity, direct interaction with activated cytokine receptors, and targeting of signaling proteins for proteasomal degradation.¹ Consistent with these mechanisms, SOCS 3 has demonstrated inhibition of JAK2 activity,¹ association with the phosphorylated (activated) growth hormone receptor which produces inhibition of growth hormone signaling,³ and sustained expression following IL-6 induction in the presence of proteasome inhibitors.⁷

REFERENCES

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7. Zhang JG, et al. *PNAS* 96:2071-2076, 1999.

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rec-Protein G	Sepharose [®] 4B	10-1241

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TRITC	81-6114	81-6514
Cy [™] 3	81-6115	81-6515
Cy [™] 5	81-6116	81-6516
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AP	81-6122	81-6522
Biotin	81-6140	81-6540

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