10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SOCS7 Rabbit pAb

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Catalog # AP57770

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O14512
Reactivity	Human, Mouse, Rat
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	62969
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SOCS7
Epitope Specificity	171-270/581
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	Preservative: 0.02% Proclin300, Constituents: 1% BSA, 0.01M PBS, pH7.4.
SUBCELLULAR LOCATION	Cytoplasm. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Nucleus. Note=Mostly cytoplasmic, but shuttles between the cytoplasm and the nucleus. Rapidly relocalizes to the nucleus after UV irradiation. Cytoplasmic location depends upon SEPT7 presence.
SIMILARITY	Contains 1 SH2 domain. Contains 1 SOCS box domain.
SUBUNIT	Interacts with phosphorylated IRS4 and PIK3R1 (By similarity). Interacts, via the third proline-rich region, with the second SH3 domain of the adapter protein NCK1. Also interacts with GRB2, INSR, IRS1, PLCG1, SORBS3/vinexin, and phosphorylated STAT3 and STAT5. Interacts with SEPT6.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The eight members of the recently identified Suppressor of Cytokines Signaling (SOCS) family are SOCS1, SOCS2, SOCS3, SOCS4, SOCS5, SOCS6, SOCS7, and CIS. Structurally the SOCS proteins are composed of an N-terminal region of variable length and amino acid composition, a central SH2 domain, and a C-terminal motif called the SOCS box. The SOCS proteins appear to form part of a classical negative feedback loop that regulates cytokine signal transduction. Transcription of each of the SOCS genes occurs rapidly in vitro and in vivo in response to cytokines, and once produced, the various members of the SOCS family appear to inhibit signaling in different ways. SOCS1 and SOCS6 interact with the insulin receptor (IR) when expressed in human hepatoma cells (HepG2) or in rat hepatoma cells overexpressing human IR. SOCS1 and SOCS6 inhibit insulin-dependent activation of ERK1/2 and protein kinase B in vivo and IR- directed phosphorylation of IRS1 in vitro. These results suggest that SOCS proteins may be inhibitors of IR signalling and could mediate cytokine-induced insulin resistance and contribute to the pathogenesis of type II diabetes. SOCS6 and SOCS7 are expressed ubiquitously in murine tissues and SOCS6 knockout mice are growth retarded.

Additional Information

Gene ID	30837
Other Names	Suppressor of cytokine signaling 7, SOCS-7, Nck, Ash and phospholipase C gamma-binding protein, Nck-associated protein 4, NAP-4, SOCS7 {ECO:0000303|PubMed:16127460, ECO:0000312|HGNC:HGNC:29846}
Target/Specificity	Expressed in brain and leukocytes. Also in fetal lung fibroblasts and fetal brain.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

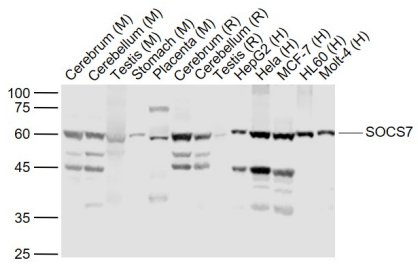
Name	SOCS7 {ECO:0000303|PubMed:16127460, ECO:0000312|HGNC:HGNC:29846}
Function	Substrate-recognition component of a cullin-5-RING E3 ubiquitin-protein ligase complex (ECS complex, also named CRL5 complex), which mediates the ubiquitination and subsequent proteasomal degradation of target proteins, such as DAB1 and IRS1 (PubMed:16127460). Specifically recognizes and binds phosphorylated proteins via its SH2 domain, promoting their ubiquitination (By similarity). The ECS(SOCS7) complex acts as a key regulator of reelin signaling by mediating ubiquitination and degradation of phosphorylated DAB1 in the cortical plate of the developing cerebral cortex, thereby regulating neuron positioning during cortex development (By similarity). Functions in insulin signaling and glucose homeostasis through IRS1 ubiquitination and subsequent proteasomal degradation (PubMed:16127460). Also inhibits prolactin, growth hormone and leptin signaling by preventing STAT3 and STAT5 activation, sequestering them in the cytoplasm and reducing their binding to DNA (PubMed:15677474).
Cellular Location	Cytoplasm. Nucleus Cell membrane; Peripheral membrane protein; Cytoplasmic side. Note=Mostly cytoplasmic, but shuttles between the cytoplasm and the nucleus (PubMed:17803907). Rapidly relocalizes to the nucleus after UV irradiation (PubMed:17803907) Cytoplasmic location depends upon SEPT7 presence (PubMed:17803907)
Tissue Location	Expressed in brain and leukocytes (PubMed:9344857). Also in fetal lung fibroblasts and fetal brain (PubMed:9344857)

Background

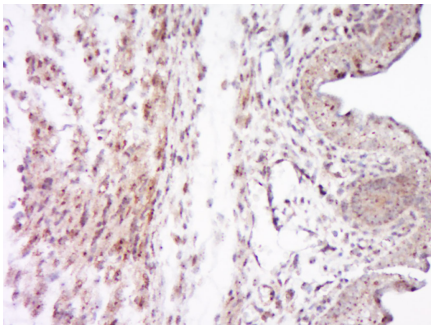
The eight members of the recently identified Suppressor of Cytokines Signaling (SOCS) family are SOCS1, SOCS2, SOCS3, SOCS4, SOCS5, SOCS6, SOCS7, and CIS. Structurally the SOCS proteins are composed of an N-terminal region of variable length and amino acid composition, a central SH2 domain, and a C-terminal motif called the SOCS box. The SOCS proteins appear to form part of a classical negative feedback loop that regulates cytokine signal transduction. Transcription of each of the SOCS genes occurs rapidly in vitro and in vivo in response to cytokines, and once produced, the various members of the SOCS family appear to inhibit signaling in different ways. SOCS1 and SOCS6 interact with the insulin receptor (IR) when expressed in

human hepatoma cells (HepG2) or in rat hepatoma cells overexpressing human IR. SOCS1 and SOCS6 inhibit insulin-dependent activation of ERK1/2 and protein kinase B in vivo and IR- directed phosphorylation of IRS1 in vitro. These results suggest that SOCS proteins may be inhibitors of IR signalling and could mediate cytokine-induced insulin resistance and contribute to the pathogenesis of type II diabetes. SOCS6 and SOCS7 are expressed ubiquitously in murine tissues and SOCS6 knockout mice are growth retarded.

Images



Sample:
Lane 1: Cerebrum (Mouse) Lysate at 40 ug
Lane 2: Cerebellum (Mouse) Lysate at 40 ug
Lane 3: Testis (Mouse) Lysate at 40 ug
Lane 4: Stomach (Mouse) Lysate at 40 ug
Lane 5: Placenta (Mouse) Lysate at 40 ug
Lane 6: Cerebrum (Rat) Lysate at 40 ug
Lane 7: Cerebellum (Rat) Lysate at 40 ug
Lane 8: Testis (Rat) Lysate at 40 ug
Lane 9: HepG2 (Human) Cell Lysate at 30 ug
Lane 10: Hela (Human) Cell Lysate at 30 ug
Lane 11: MCF-7 (Human) Cell Lysate at 30 ug
Lane 12: HL60 (Human) Cell Lysate at 30 ug
Lane 13: Molt-4 (Human) Cell Lysate at 30 ug
Primary:
Anti-SOCS7 (AP57770) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 63 kD
Observed band size: 60 kD



Tissue/cell: Mouse embryo tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-SOCS7 Polyclonal Antibody, Unconjugated(AP57770) 1:500, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining