

Jak/Stat Pathway Inhibitors Antibody Sampler Kit

Cat# AK0182

Upon receipt, store at -20°C. Avoid freeze/thaw cycles.

PRODUCT DESCRIPTION

Jak (Janus Kinase) and Stat (signal transducer and activator of transcription) proteins are utilized by receptors for a wide variety of ligands including cytokines, hormones, growth factors, and neurotransmitters. Jaks and Stats play important roles in oncogenesis, tumor progression, angiogenesis, cell motility, immune responses, and stem cell differentiation. Therefore, regulation of Jak/Stat signaling is crucial to prevent aberrant signaling which can lead to disease progression. Two methods for regulating Jak/Stat signaling involve SOCS and PIAS proteins. The SOCS (suppressor of cytokine signaling) family members are negative regulators of cytokine signal transduction that inhibit the Jak/Stat pathway and consist of 8 known members, including the originally identified protein CIS1 (cytokine-inducible SH2-containing protein) and SOCS1-SOCS7. Each SOCS family member contains a central SH2 domain and a conserved carboxy-terminal motif designated as the SOCS box. These proteins are important regulators of cytokine signaling, proliferation, differentiation, and immune responses. SOCS proteins are involved in regulating over 30 cytokines, including interleukins, growth hormone (GH), interferons, leptin, and leukemia inhibitory factor. SOCS1, also known as JAB (Janus Kinase binding protein) and SSI-1 (Stat-induced Stat inhibitor-1), shares the most homology with SOCS3 and both are highly induced by cytokines. Both SOCS1 and SOCS3 directly inhibit Jak activity; SOCS1 inhibits Jak through an interaction involving a phosphotyrosine located in the kinase activation loop; SOCS3 inhibits Jak via its SH2 domain. In addition to inhibiting Jak/Stat signaling, the SOCS box of SOCS1 and SOCS3 can trigger ubiquitin-mediated degradation of proteins within and outside the Jak/Stat pathway. SOCS2 is also induced upon cytokine stimulation and the activity of SOCS2 has been predominately linked to GH and insulin-like growth factor signaling by binding to tyrosine-phosphorylated receptors via its SH2 domain. The PIAS (protein inhibit

PRODUCT INCLUDES

Cat No.	Product name	Quantity	Applications	Reactivity	Host
A340121	SOCS1 Polyclonal Antibody	20µL	WB, ELISA	Human, Mouse, Rat	Rabbit
A340677	SOCS2 Polyclonal Antibody	20µL	WB, ELISA	Human, Mouse, Rat	Rabbit
A340106	SOCS3 Polyclonal Antibody	20µL	WB, IHC, ELISA	Human, Mouse, Rat	Rabbit

A340638	PIAS1 Polyclonal Antibody	20μL	WB, IHC, ELISA	Human, Mouse	Rabbit
A340639	PIAS3 Polyclonal Antibody	20μL	WB, IHC, ELISA	Human, Mouse, Rat	Rabbit
A1013s	Goat Anti-Rabbit IgG (H+L) (peroxidase/HRP conjugated)	120μL	WB, ELISA	Rabbit	Goat

PRODUCT USE LIMITATION

These products are intended for research use only.