Datasheet for ABIN740955

anti-JAK2 antibody (pTyr1007, pTyr1008)

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Overview

Quantity:	100 µL
Target:	JAK2
Binding Specificity:	pTyr1007, pTyr1008
Reactivity:	Human, Rat, Mouse, Rabbit, Zebrafish (Danio rerio)
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This JAK2 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Flow Cytometry (FACS), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunocytochemistry (ICC), Immunofluorescence (Cultured Cells) (IF (cc)), Immunofluorescence (Paraffin-embedded Sections) (IF (p)), Immunohistochemistry (Frozen Sections) (IHC (fro))

Product Details

Immunogen:	KLH conjugated synthetic phosphopeptide derived from human JAK2 around the phosphorylation site of Tyr1007/1008
Isotype:	IgG
Cross-Reactivity:	Human, Mouse, Rabbit, Rat, Zebrafish (Danio rerio)
Predicted Reactivity:	Pig,Chicken
Purification:	Purified by Protein A.

Target Details

Target:	JAK2
Alternative Name:	JAK2+ (JAK2 Products)
Background:	Synonyms: JAK2Tyr1007/1008, Tyrosine protein kinase JAK2, JAK 2, JAK-2, JAK2, JAK2_HUMAN, Janus Activating Kinase 2, Janus Kinase 2, JTK 10, JTK10, OTTHUMP00000043260, Tyrosine-protein kinase JAK2, Tyrosine protein kinase JAK2. Background: JAK2 (Janus Activating Kinase 2) is a tyrosine kinase of the non-receptor type, that associates with the intracellular domains of cytokine receptors, JAK2 is the predominant JAK kinase activated in response to several growth factors and cytokines such as IL-3, GM-CSF and erythropoietin, it has been found to be constitutively associated with the prolactin receptor and is required for responses to gamma interferon. Ligand binding to a variety of cell surface receptors (e.g., cytokine, growth factor, GPCRs) leads to an association of those receptors with JAK proteins, which are then activated via phosphorylation on tyrosines 1007 and 1008 in the kinase activation loop. Activated JAK proteins phosphorylate and activate STAT (signal transducers and activators of transcription) proteins, which then dimerize and translocate to the nucleus. Once in the nucleus, STAT proteins bind to DNA and modify the transcription of various genes.
Gene ID:	3717
UniProt:	O60674
Pathways:	JAK-STAT Signaling, RTK Signaling, Interferon-gamma Pathway, Positive Regulation of Peptide Hormone Secretion, Intracellular Steroid Hormone Receptor Signaling Pathway, Response to Growth Hormone Stimulus, Positive Regulation of Endopeptidase Activity, Protein targeting to Nucleus, CXCR4-mediated Signaling Events, Platelet-derived growth Factor Receptor Signaling, Unfolded Protein Response

Application Details

Application Notes:	WB 1:300-5000
	ELISA 1:500-1000
	FCM 1:20-100
	IHC-P 1:200-400
	IHC-F 1:100-500
	IF(IHC-P) 1:50-200
	IF(IHC-F) 1:50-200
	IF(ICC) 1:50-200

Application Details

	ICC 1:100-500
Restrictions:	For Research Use only

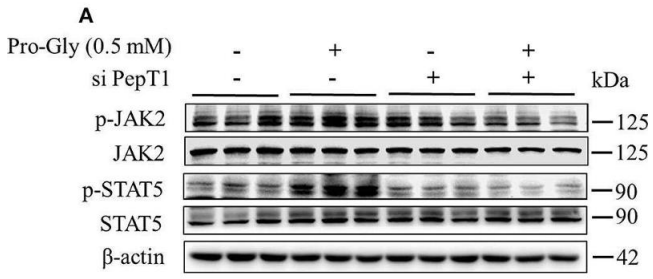
Handling

Format:	Liquid
Concentration:	1 µg/µL
Buffer:	0.01M TBS(pH 7.4) with 1 % BSA, 0.02 % Proclin300 and 50 % Glycerol.
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.
Expiry Date:	12 months

Publications

Product cited in:	Iriyama, Hatta, Takei: "Direct effect of dasatinib on signal transduction pathways associated with a rapid mobilization of cytotoxic lymphocytes." in: **Cancer medicine**, Vol. 5, Issue 11, pp. 3223-3234, (2016) (PubMed).

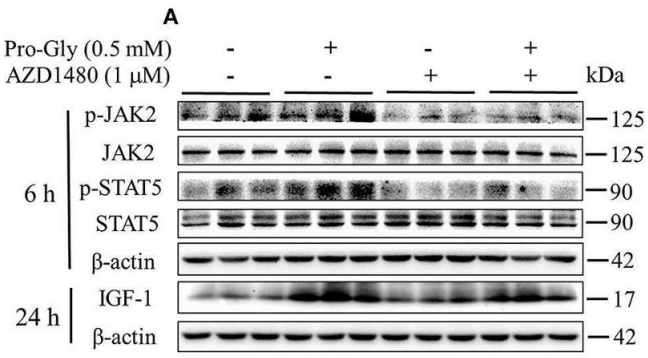
Images



Western Blotting

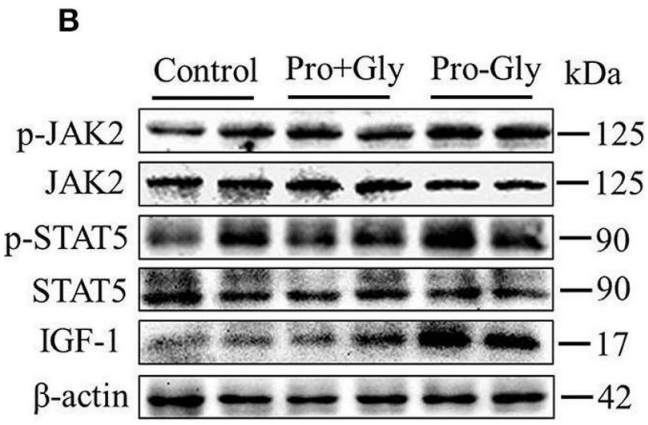
Image 1. Pro-Gly activated JAK2/STAT5 signaling pathway in a PepT1-dependent manner. (A) Western blot analysis of phospho-JAK2 (p-JAK2), JAK2, phospho-STAT5 (p-STAT5), and STAT5 in HepG2 cells after 24 h incubation in the presence of Pro-Gly (0.5 mM) and/or PepT1 siRNA. β-actin was used as loading control. The panels shown are the representative bands of 3 independent experiments with 6 replicates. (B) Mean ± SEM of immunoblotting bands of p-JAK2/JAK2 and p-STAT5/STAT5 (n = 6). The intensities of

the bands were expressed as the arbitrary units. Bars that do not share the same letter are significantly different (P < 0.05). (C) Interaction (binding) between JAK2 and STAT5 detected by co-IP. HepG2 cells were exposed to 0.5 mM Pro-Gly or 0.5 mM Pro+Gly for 24 h. (D) HepG2 cells were incubated in the presence of Pro-Gly (0.5 mM) and/or AZD1480 (1 μM) for 6 h and phospho-STAT5 translocation to nuclei was detected by ICC. Scale bar, 10 μm. The IP and ICC experiments were conducted independently for 3 times, with 3 replicates each time. - figure provided by CiteAb. Source: PMID30140255



Western Blotting

Image 2. Inhibition of JAK2/STAT5 signaling pathway blocked the promotive effect of Pro-Gly on IGF-1 expression and secretion in the HepG2 cells. (A) Western blot analysis of phospho-JAK2 (p-JAK2), JAK2, phospho-STAT5 (p-STAT5), STAT5 and prepro IGF-1 in HepG2 cells after 6 h or 24 h incubation in the presence of Pro-Gly (0.5 mM) and/or AZD1480 (1 μM), respectively. β-actin was used as loading control. The panels shown are the representative bands of 3 independent experiments with 6 replicates. (B) Mean ± SEM of immunoblotting bands of prepro IGF-1, p-JAK2/JAK2 and p-STAT5/STAT5 (n = 6). The intensities of the bands were expressed as the arbitrary units. (C)IGF-1 mRNA level in HepG2 cells after 24 h incubation in the presence of Pro-Gly (0.5 mM) and/or AZD1480 (1 μM) (n = 6). GAPDH was used as housekeeping gene. (D) Effects of Pro-Gly (0.5 mM) and/or AZD1480 (1 μM) on IGF-1 levels in the supernatant of HepG2 cells (n = 6). Bars that do not share the same letter are significantly different (P < 0.05). - figure provided by CiteAb. Source: PMID30140255



Western Blotting

Image 3. Acute or chronic injection of Pro-Gly, but not Pro plus Gly (Pro+Gly), stimulated IGF-1 expression and secretion in mice. (A-D) The 18 6-week-old female mice were intraperitoneal injected with physiological saline (Control, n = 6), Pro-Gly (100 mg/kg, n = 6), or Pro (58 mg/kg) plus Gly (38 mg/kg) (Pro+Gly, n = 6) for 1 h. Effects of acute injection of Pro-Gly or Pro+Gly on IGF-1 mRNA level (A), prepro IGF-1 protein expression and activation of JAK2/STAT5 signaling pathway (B,C) in mice liver and serum level of IGF-1 (D). β-actin was used as loading control. The intensities of the bands were expressed as the arbitrary units. (E-H) The 30 4-week-old female mice were intraperitoneal injected with physiological saline (Control, n = 10), Pro-Gly (150 mg/kg, n = 10), or Pro (87 mg/kg) plus Gly (57 mg/kg) (Pro+Gly, n = 10) every other day for 35 days. Effects of chronic injection of Pro-Gly or Pro+Gly on PepT1 mRNA level (E), prepro IGF-1 protein expression and activation of JAK2/STAT5 signaling pathway (F,G) in mice liver and serum level of IGF-1 (H). β-actin was used as loading control. The intensities of the bands were expressed as the arbitrary units. *P < 0.05. Bars that do not share the same letter are significantly different (P < 0.05). - figure provided by CiteAb. Source: PMID30140255

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