

Datasheet for ABIN6256069  
**anti-JAK2 antibody (pTyr931)**



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## Overview

Quantity:	100 µL
Target:	JAK2
Binding Specificity:	pTyr931
Reactivity:	Human, Rat, Mouse
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This JAK2 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)

## Product Details

Immunogen:	A synthesized peptide derived from human JAK2 around the phosphorylation site of Tyr931.
Isotype:	IgG
Specificity:	Phospho-JAK2 (Tyr931) Antibody detects endogenous levels of JAK2 only when phosphorylated at Tyrosine 931.
Predicted Reactivity:	Pig,Bovine,Horse,Sheep,Rabbit,Dog,Chicken,Xenopus
Purification:	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.

## Target Details

Target:	JAK2
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# Target Details

Alternative Name:	JAK2 ( <a href="#">JAK2 Products</a> )
Background:	<p>Description: Non-receptor tyrosine kinase involved in various processes such as cell growth, development, differentiation or histone modifications. Mediates essential signaling events in both innate and adaptive immunity. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors such as growth hormone (GHR), prolactin (PRLR), leptin (LEPR), erythropoietin (EPOR), thrombopoietin (THPO), or type II receptors including IFN-alpha, IFN-beta, IFN-gamma and multiple interleukins (PubMed:7615558). Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins (PubMed:9618263). Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, cell stimulation with erythropoietin (EPO) during erythropoiesis leads to JAK2 autophosphorylation, activation, and its association with erythropoietin receptor (EPOR) that becomes phosphorylated in its cytoplasmic domain. Then, STAT5 (STAT5A or STAT5B) is recruited, phosphorylated and activated by JAK2. Once activated, dimerized STAT5 translocates into the nucleus and promotes the transcription of several essential genes involved in the modulation of erythropoiesis. Part of a signaling cascade that is activated by increased cellular retinol and that leads to the activation of STAT5 (STAT5A or STAT5B) (PubMed:21368206). In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation (PubMed:20098430). Plays a role in cell cycle by phosphorylating CDKN1B (PubMed:21423214). Cooperates with TEC through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. In the nucleus, plays a key role in chromatin by specifically mediating phosphorylation of 'Tyr-41' of histone H3 (H3Y41ph), a specific tag that promotes exclusion of CBX5 (HP1 alpha) from chromatin (PubMed:19783980).</p> <p>Gene: JAK2</p>
Molecular Weight:	125kDa
Gene ID:	3717
UniProt:	<a href="#">O60674</a>
Pathways:	<a href="#">JAK-STAT Signaling</a> , <a href="#">RTK Signaling</a> , <a href="#">Interferon-gamma Pathway</a> , <a href="#">Positive Regulation of Peptide Hormone Secretion</a> , <a href="#">Intracellular Steroid Hormone Receptor Signaling Pathway</a> , <a href="#">Response to Growth Hormone Stimulus</a> , <a href="#">Positive Regulation of Endopeptidase Activity</a> , <a href="#">Protein targeting to Nucleus</a> , <a href="#">CXCR4-mediated Signaling Events</a> , <a href="#">Platelet-derived growth Factor Receptor Signaling</a> , <a href="#">Unfolded Protein Response</a>

## Application Details

Application Notes: WB 1:500-1:2000, IHC 1:50-1:200, IF/ICC 1:100-1:500, ELISA(peptide) 1:20000-1:40000

Restrictions: For Research Use only

## Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: Rabbit IgG in phosphate buffered saline , pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.

Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: -20 °C

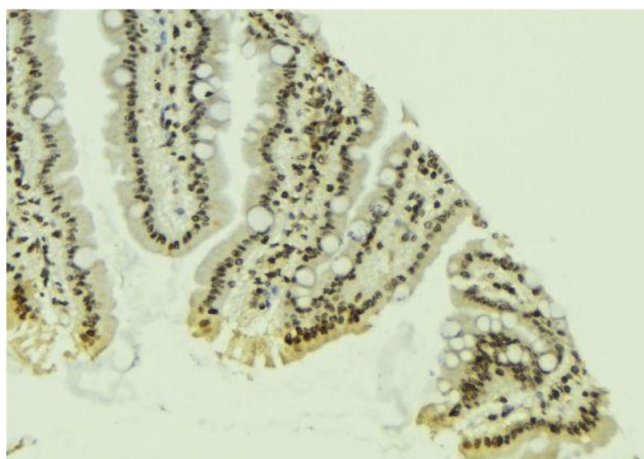
Storage Comment: Store at -20 °C. Stable for 12 months from date of receipt.

Expiry Date: 12 months

## Publications

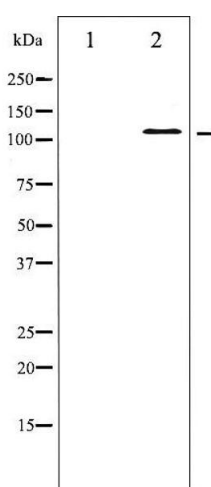
Product cited in: Deng, Bu, Mo, Lv, Song, Xiao, Dan, Yang: "Huang Gan Formula Eliminates the Oxidative Stress Effects of Advanced Oxidation Protein Products on the Divergent Regulation of the Expression of AGEs Receptors via the JAK2/STAT3 Pathway." in: **Evidence-based complementary and alternative medicine : eCAM**, Vol. 2017, pp. 4520916, (2018) ([PubMed](#)).

Wu, Xu, Xu, Zheng, Chen, Jiao: "Study on the mechanism of JAK2/STAT3 signaling pathway-mediated inflammatory reaction after cerebral ischemia." in: **Molecular medicine reports**, Vol. 17, Issue 4, pp. 5007-5012, (2018) ([PubMed](#)).



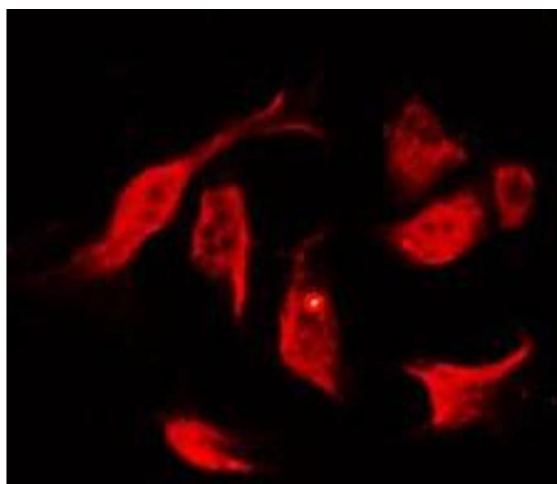
### Immunohistochemistry

**Image 1.** ABIN6267241 at 1/100 staining Mouse colon tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22°C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



### Western Blotting

**Image 2.** Western blot analysis of JAK2 phosphorylation expression in Na<sub>3</sub>VO<sub>4</sub> treated HepG2 whole cell lysates. The lane on the left is treated with the antigen-specific peptide.



### Immunofluorescence (fixed cells)

**Image 3.** ABIN6267241 staining K562 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25°C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37°C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.

Please check the [product details page](#) for more images. Overall 4 images are available for ABIN6256069.