

**Anti-JAK2 Antibody**  
**Catalog # ABO10943****Specification**

---

**Anti-JAK2 Antibody - Product Information**

|                   |                        |
|-------------------|------------------------|
| Application       | WB, IHC                |
| Primary Accession | <a href="#">O60674</a> |
| Host              | Rabbit                 |
| Reactivity        | Human                  |
| Clonality         | Polyclonal             |
| Format            | Lyophilized            |

**Description**

Rabbit IgG polyclonal antibody for Tyrosine-protein kinase JAK2(JAK2) detection. Tested with WB, IHC-P in Human.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-JAK2 Antibody - Additional Information**

**Gene ID** 3717

**Other Names**

Tyrosine-protein kinase JAK2, 2.7.10.2, Janus kinase 2, JAK-2, JAK2

**Calculated MW**

130674 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human<br>

**Subcellular Localization**

Endomembrane system ; Peripheral membrane protein . Cytoplasm . Nucleus .

**Tissue Specificity**

Ubiquitously expressed throughout most tissues. .

**Protein Name**

Tyrosine-protein kinase JAK2

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human JAK2(1096-1113aa DEIYMIMTECWNNNVNQR).

**Purification**

Immunogen affinity purified.

#### Cross Reactivity

No cross reactivity with other proteins

#### Storage

**At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

#### Sequence Similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. JAK subfamily.

### Anti-JAK2 Antibody - Protein Information

**Name** JAK2 ([HGNC:6192](#))

#### Function

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:<a href="http://www.uniprot.org/citations/7615558" target="\_blank">7615558</a>). 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:<a href="http://www.uniprot.org/citations/9618263" target="\_blank">9618263</a>). 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:<a href="http://www.uniprot.org/citations/21368206" target="\_blank">21368206</a>). In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation (PubMed:<a href="http://www.uniprot.org/citations/20098430" target="\_blank">20098430</a>). Plays a role in cell cycle by phosphorylating CDKN1B (PubMed:<a href="http://www.uniprot.org/citations/21423214" target="\_blank">21423214</a>). 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:<a href="http://www.uniprot.org/citations/19783980" target="\_blank">19783980</a>).

#### Cellular Location

Endomembrane system; Peripheral membrane protein. Cytoplasm. Nucleus

#### Tissue Location

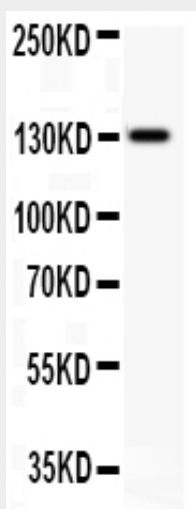
Ubiquitously expressed throughout most tissues.

## Anti-JAK2 Antibody - Protocols

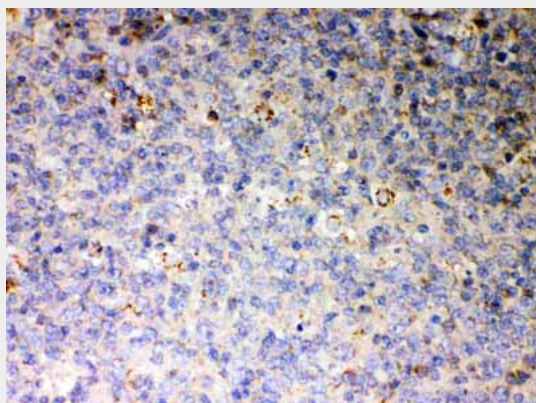
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

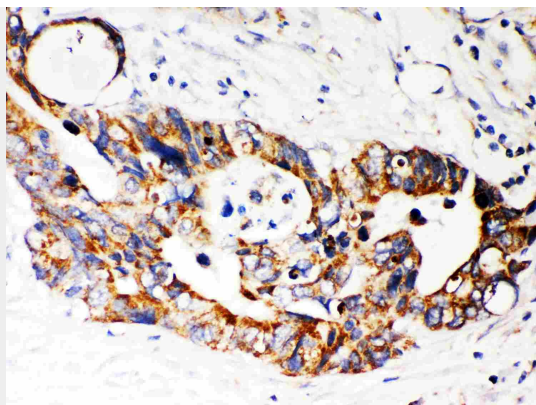
## Anti-JAK2 Antibody - Images



Anti- JAK2 antibody, ABO10943, Western blottingAll lanes: Anti JAK2 (ABO10943) at 0.5ug/mlWB: HELA Whole Cell Lysate at 40ugPredicted bind size: 130KDObserved bind size: 130KD



Anti- JAK2 antibody, ABO10943, IHC(P)IHC(P): Human Tonsil Tissue



Anti- JAK2 antibody, ABO10943, IHC(P)IHC(P): Human Intestinal Cancer Tissue

#### **Anti-JAK2 Antibody - Background**

Janus kinase 2, commonly called JAK2, is a human protein that has been implicated in signaling by members of the type II cytokine receptor family, the GM-CSF receptor family, the gp130 receptor family, and the single chain receptors. Exactly, JAK2 kinase is a member of a family of tyrosine kinases involved in cytokine receptor signaling. The JAK2 gene is mapped to 9p24.1. The JAK2 gene encodes a 1,132-amino acid protein that shares 95% sequence similarity to rat and pig Jak2. JAK2 is constitutively associated with the prolactin receptor and that it is activated and tyrosine phosphorylated upon PRL binding to the PRL receptor. JAK2, and more specifically just its intact N-terminal domain, binds to EPOR in the endoplasmic reticulum and promotes its cell surface expression. The human JAK2 is present in the nucleus of hematopoietic cells and directly phosphorylates tyr41 on histone H3.