

# Anti-Phospho-JAK2 (Y1007 + Y1008) Monoclonal Antibody

Catalog # ABO14379

## Product Information

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|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>       | WB, IHC, IF, ICC, IP, FC                                                                                                                                         |
| <b>Primary Accession</b> | <a href="#">O60674</a>                                                                                                                                           |
| <b>Host</b>              | Rabbit                                                                                                                                                           |
| <b>Isotype</b>           | Rabbit IgG                                                                                                                                                       |
| <b>Reactivity</b>        | Rat, Human, Mouse                                                                                                                                                |
| <b>Clonality</b>         | Monoclonal                                                                                                                                                       |
| <b>Format</b>            | Liquid                                                                                                                                                           |
| <b>Description</b>       | Anti-Phospho-JAK2 (Y1007 + Y1008) Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat. |

## Additional Information

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| <b>Gene ID</b>             | 3717                                                                                                                                       |
| <b>Other Names</b>         | Tyrosine-protein kinase JAK2, 2.7.10.2, Janus kinase 2, JAK-2, JAK2 ( <a href="#">HGNC:6192</a> )                                          |
| <b>Calculated MW</b>       | 130674                                                                                                                                     |
| <b>Application Details</b> | WB 1:500-1:2000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>IP 1:50<br>FC 1:30                                                               |
| <b>Source</b>              | Eukaryota                                                                                                                                  |
| <b>Contents</b>            | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.                        |
| <b>Clone Names</b>         | Clone: IFE-10                                                                                                                              |
| <b>Immunogen</b>           | A synthesized peptide derived from human Phospho-JAK2 (Y1007 + Y1008)                                                                      |
| <b>Purification</b>        | Affinity-chromatography                                                                                                                    |
| <b>Storage</b>             | Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles. |

## Protein Information

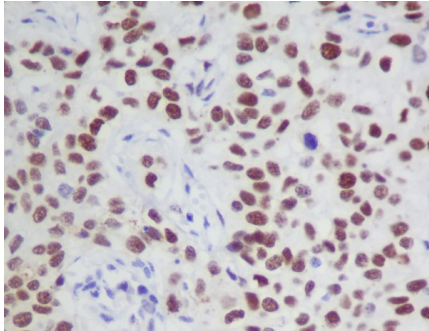
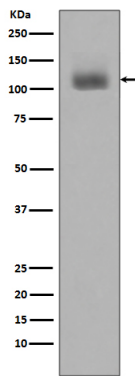
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|-------------|------------------------------------|
| <b>Name</b> | JAK2 ( <a href="#">HGNC:6192</a> ) |
|-------------|------------------------------------|

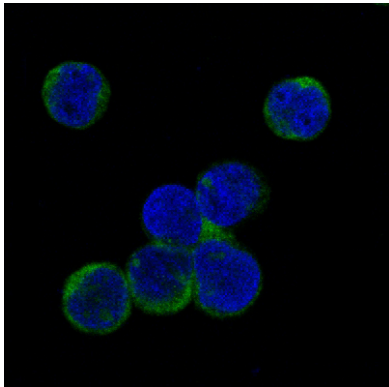
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| <b>Function</b>          | <p>Non-membrane spanning protein tyrosine kinase that phosphorylates type I receptors such as growth hormone (GHR), prolactin (PRLR), leptin (LEPR), erythropoietin (EPOR), thrombopoietin receptor (MPL/TPOR); or type II receptors including IFN-alpha, IFN-beta, IFN- gamma and multiple interleukins (PubMed:<a href="#">15690087</a>, PubMed:<a href="#">15899890</a>, PubMed:<a href="#">7615558</a>, PubMed:<a href="#">9188471</a>, PubMed:<a href="#">9657743</a>). Functionally, plays a pivotal role in signal transduction and is involved in various processes such as cell growth, development, differentiation or histone modifications. Mediates essential signaling events in both innate and adaptive immunity. Mechanistically, 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="#">15690087</a>, PubMed:<a href="#">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 (PubMed:<a href="#">9657743</a>). 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="#">21368206</a>). In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation (PubMed:<a href="#">20098430</a>). Plays a role in cell cycle by phosphorylating CDKN1B (PubMed:<a href="#">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="#">19783980</a>). Up- regulates the potassium voltage-gated channel activity of KCNA3 (PubMed:<a href="#">25644777</a>). Binding of CNTF or the CLCF1/CLF heterodimer to CNTFR leads to IL6ST/gp130-LIFR dimerization followed by activation of JAK1 and JAK2 which in turns phosphorylate IL6ST/gp130 and LIFR (PubMed:<a href="#">11294841</a>). The tyrosine phosphorylated signaling receptors serve in turn as docking proteins for STAT3 (PubMed:<a href="#">11294841</a>). Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) (PubMed:<a href="#">9188471</a>).</p> |
| <b>Cellular Location</b> | Endomembrane system; Peripheral membrane protein. Cytoplasm. Nucleus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Tissue Location</b>   | Ubiquitously expressed throughout most tissues.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Images

Western blot analysis of JAK2 phosphorylation expression in Jurkat cell lysates treated with Pervanadate.



Immunohistochemical analysis of paraffin-embedded human cervix cancer, using Phospho-JAK2 (Y1007 + Y1008) Antibody.



Immunofluorescent analysis of Jurkat cells treated with Pervanadate, using Phospho-JAK2 (Y1007 + Y1008) Antibody

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