



## Phospho-JAK Sampler Kit

**E051037**

Kits Includes	Cat.	Quantity	Application	Reactivity	Source
JAK1 (Ab-1022) Antibody	E021119-1	50µg/50µl	IHC, WB	Human, Mouse, Rat	Rabbit
JAK1(Phospho-Tyr1022) Antibody	E011149-1	50µg/50µl	IHC, WB	Human, Mouse, Rat	Rabbit
JAK2 (Ab-221) Antibody	E021120-1	50µg/50µl	IHC	Human, Mouse, Rat	Rabbit
JAK2 (Phospho-Tyr1007) Antibody	E011151-1	50µg/50µl	IHC	Human, Mouse, Rat	Rabbit
JAK2 (Phospho-Tyr221) Antibody	E011150-1	50µg/50µl	IHC	Human, Mouse, Rat	Rabbit

Janus kinase 1 (JAK1), is a member of a new class of protein-tyrosine kinases (PTK) characterized by the presence of a second phosphotransferase-related domain immediately N-terminal to the PTK domain. The second phosphotransferase domain bears all the hallmarks of a protein kinase, although its structure differs significantly from that of the PTK and threonine/serine kinase family members. JAK1 is a large, widely expressed membrane-associated phosphoprotein. JAK1 is involved in the interferon-alpha/beta and -gamma signal transduction pathways. The reciprocal interdependence between JAK1 and TYK2 activities in the interferon-alpha pathway, and between JAK1 and JAK2 in the interferon-gamma pathway, may reflect a requirement for these kinases in the correct assembly of interferon receptor complexes. These kinases couple cytokine ligand binding to tyrosine phosphorylation of various known signaling proteins and of a unique family of transcription factors termed the signal transducers and activators of transcription, or STATs. Tyrosine kinase of the non-receptor type, involved in the IFN-alpha/beta/gamma signal pathway. Kinase partner for the interleukin (IL)-2 receptor.

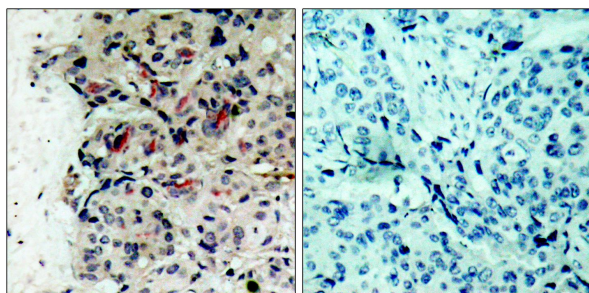
JAKs are a family of tyrosine kinases that associated with cytokine receptors. Upon receptor activation JAKs phosphorylate the transcription factors known as STATs and initiate the JAK-STAT signaling pathway. Four JAK family members have been identified (JAK1, JAK2, JAK3 and Tyk2), which share a similar protein domain structure: a kinase domain, a regulatory pseudo-kinase domain, a SH2 domain and a FERM domain. The FERM domain of JAK family members mediates the association of JAK with other enzymes and cytokine receptors. The JAK Tyk2 associates with the IFN-1, IL-6, 10, 12, and 23 cytokine receptor families. JAK1 mediates signals from IFN-alpha, beta, gamma and IL-2, 6 receptors. JAK2 transduces signals from the single chain and IL-3 cytokine receptor families, and from the IFN-gamma receptors. JAK3 associates with the IL-2 receptor gamma-chain.



## JAK1 (Ab-1022) Antibody

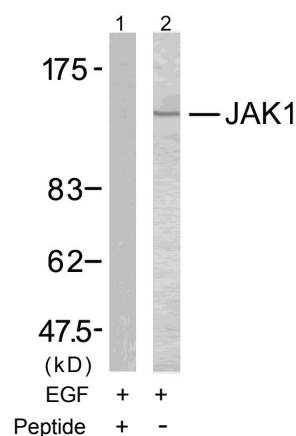
E021119

- Catalog Number:** E021119-1, E021119-2
- Amount:** 50µg/50µl, 100µg/100µl
- Form of Antibody:** Rabbit IgG in phosphate buffered saline (without Mg<sup>2+</sup> and Ca<sup>2+</sup>), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
- Storage/Stability:** Store at -20°C/1 year
- Immunogen:** The antiserum was produced against synthesized non-phosphopeptide derived from human JAK1 around the phosphorylation site of tyrosine 1022 (K-E-Y<sup>P</sup>-Y-T).
- Purification:** The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
- Specificity/Sensitivity:** JAK1 (Ab-1022) antibody detects endogenous levels of total JAK1 protein.
- Reactivity:** Human, Mouse, Rat
- Applications:** WB: 1:500~1:1000      IHC: 1:50~1:100
- Swiss-Prot No. :** P23458
- References:** Zheng H, et al. (2005) Mol Cell Proteomics. 4(6):721-730.  
Wang R, et al. (2003) Arch Biochem Biophys. 410(1): 7-15.



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Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using JAK1 antibody.



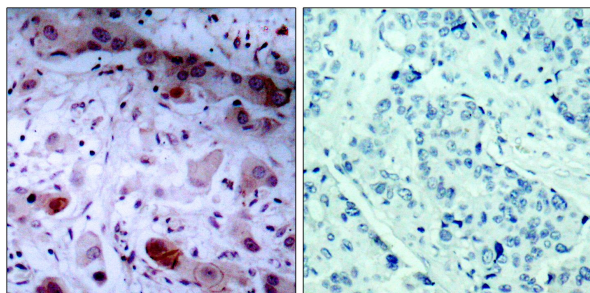
Western blot analysis of extracts from MCF7 cells using JAK1 antibody.



## JAK1 (Phospho-Tyr1022) Antibody

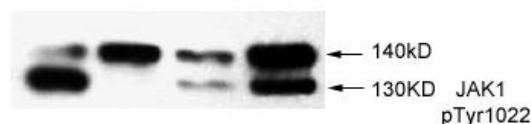
E011149

- Catalog Number:** E011149-1, E011149-2
- Amount:** 50µg/50µl, 100µg/100µl
- Form of Antibody:** Rabbit IgG in phosphate buffered saline (without  $Mg^{2+}$  and  $Ca^{2+}$ ), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
- Storage/Stability:** Store at -20°C/1 year
- Immunogen:** The antiserum was produced against synthesized phosphopeptide derived from human JAK1 around the phosphorylation site of tyrosine 1022 (K-E-Y<sup>P</sup>-Y-T).
- Purification:** The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
- Specificity/Sensitivity:** JAK1 (phospho-Tyr1022) antibody detects endogenous levels of JAK1 only when phosphorylated at tyrosine 1022.
- Reactivity:** Human, Mouse, Rat
- Applications:** WB: 1:500~1:1000      IHC: 1:50~1:100
- Swiss-Prot No. :** P23458
- References:** Zheng H, et al.(2005) Mol Cell Proteomics. 4(6):721-730.  
Wang R, et al.(2003) Arch Biochem Biophys. 410(1): 7-15.



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Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue, using JAK1 antibody.



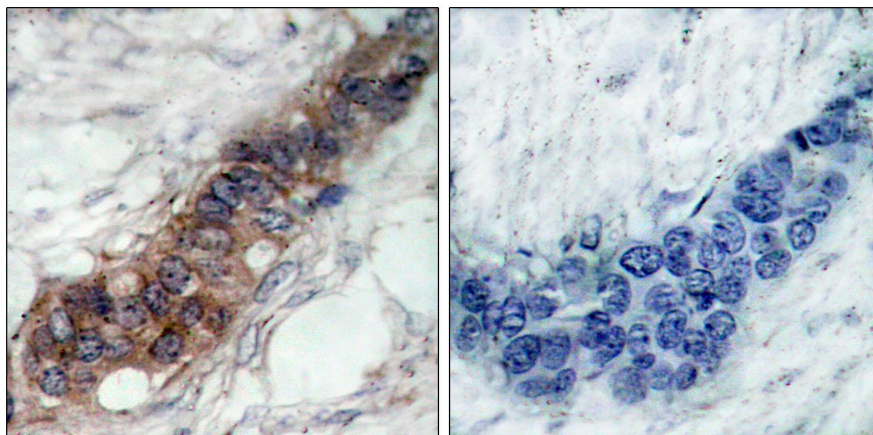
Western blot analysis of extract from thyroid cancer cell line Bph cells, using JAK1 antibody.



## JAK2 (Ab-221) Antibody

**E021120**

- Catalog Number:** E021120-1, E021120-2
- Amount:** 50µg/50µl, 100µg/100µl
- Form of Antibody:** Rabbit IgG in phosphate buffered saline (without Mg<sup>2+</sup> and Ca<sup>2+</sup>), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
- Storage/Stability:** Store at -20°C/1 year
- Immunogen:** The antiserum was produced against synthesized non-phosphopeptide derived from human JAK2 around the phosphorylation site of tyrosine 221 (Q-D-Y<sup>P</sup>-H-I).
- Purification:** The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
- Specificity/Sensitivity:** JAK2 (Ab-221) antibody detects endogenous levels of total JAK2 protein.
- Reactivity:** Human, Mouse, Rat
- Applications:** IHC: 1:50~1:100
- Swiss-Prot No. :** O60674
- References:** Feener EP, et al.(2004) Mol Cell Biol. 24(11): 4968-4978.  
Argetsinger LS, et al.(2004) Mol Cell Biol. 24(11): 4955-4967.



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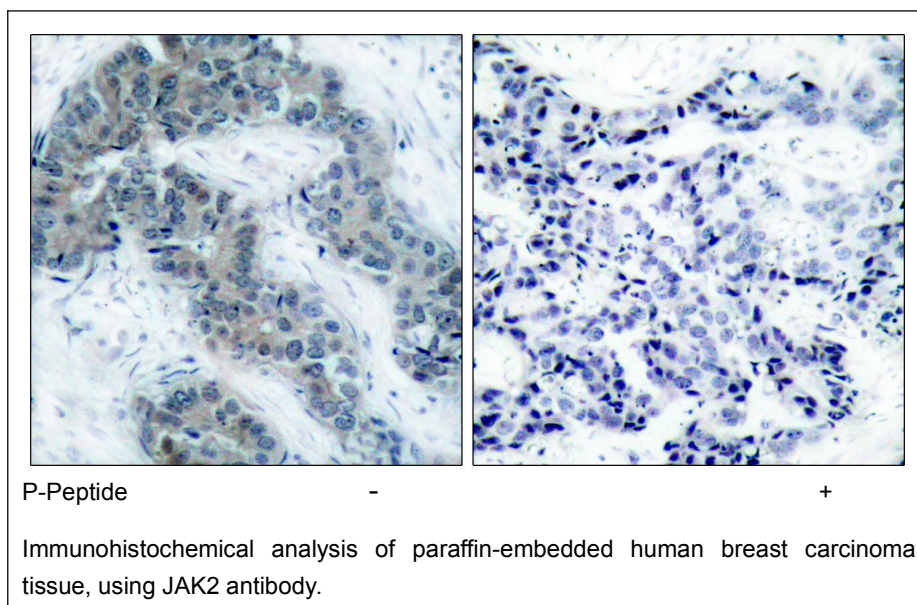
Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using JAK2 antibody.



## JAK2 (Phospho-Tyr1007) Antibody

**E011151**

- Catalog Number:** E011151-1, E011151-2
- Amount:** 50µg/50µl, 100µg/100µl
- Form of Antibody:** Rabbit IgG in phosphate buffered saline (without  $Mg^{2+}$  and  $Ca^{2+}$ ), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
- Storage/Stability:** Store at -20°C/1 year
- Immunogen:** The antiserum was produced against synthesized phosphopeptide derived from human JAK2 around the phosphorylation site of tyrosine 1007 (K-E-Y<sup>P</sup>-Y-K).
- Purification:** The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
- Specificity/Sensitivity:** JAK2 (phospho-Tyr1007) antibody detects endogenous levels of JAK2 only when phosphorylated at tyrosine 1007.
- Reactivity:** Human, Mouse, Rat
- Applications:** IHC: 1:50~1:100
- Swiss-Prot No. :** O60674
- References:** James C, et al. (2005) Nature. 434(7037): 1144-1148.  
Argetsinger LS, et al. (2004) Mol Cell Biol. 24(11): 4955-4967.  
Ungureanu D, et al. (2002) Mol Cell Biol. 22(10): 3316-3326.  
Xie S, et al. (2001) Oncogene. 20(43): 6188-6195.



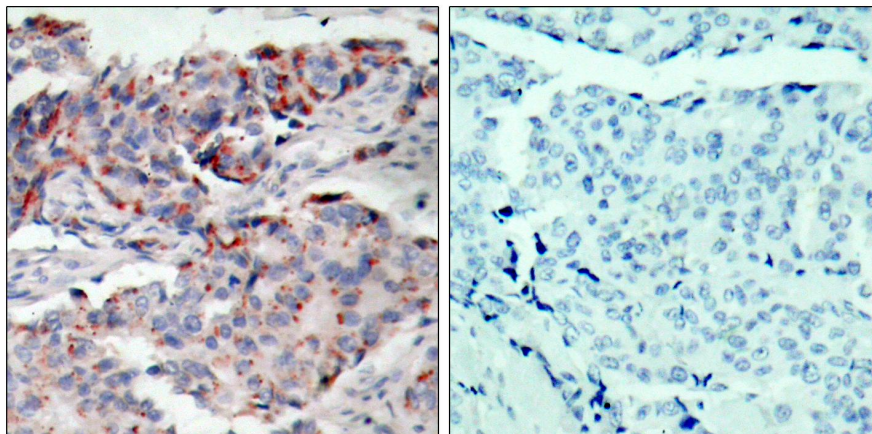




## JAK2 (Phospho-Tyr221) Antibody

**E0111150**

- Catalog Number:** E011150-1, E011150-2
- Amount:** 50µg/50µl, 100µg/100µl
- Form of Antibody:** Rabbit IgG in phosphate buffered saline (without  $Mg^{2+}$  and  $Ca^{2+}$ ), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
- Storage/Stability:** Store at -20°C/1 year
- Immunogen:** The antiserum was produced against synthesized phosphopeptide derived from human JAK2 around the phosphorylation site of tyrosine 221 (Q-D-Y<sup>P</sup>-H-I).
- Purification:** The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
- Specificity/Sensitivity:** JAK2 (phospho-Tyr221) antibody detects endogenous levels of JAK2 only when phosphorylated at tyrosine 221.
- Reactivity:** Human, Mouse, Rat
- Applications:** IHC: 1:50~1:100
- Swiss-Prot No. :** O60674
- References:** Feener EP, et al.(2004) Mol Cell Biol. 24(11): 4968-4978.  
Argetsinger LS, et al.(2004) Mol Cell Biol. 24(11): 4955-4967.



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Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue, using JAK2 antibody.