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Lieferung & Zahlungsart

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PRODUCT INFORMATION

JAK2 JH2 Domain (human, recombinant; aa 513-827) - Biotinylated

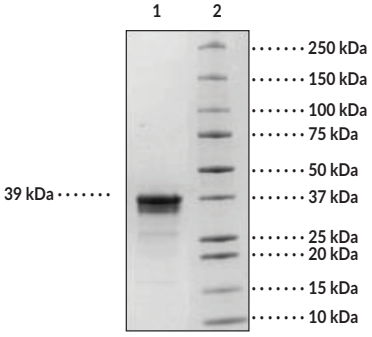
Item No. 42273

Overview and Properties

Synonyms:	Janus-Associated Kinase 2, JTK10, Tyrosine-protein Kinase JAK2
Source:	Recombinant human C-terminal His-tagged biotinylated JAK2 JH2 domain expressed in insect cells (*Sf*9)
Amino Acids:	513-827
Uniprot No.:	O60674
Molecular Weight:	39 kDa
Storage:	-80°C (as supplied); avoid freeze/thaw
Stability:	≥6 months
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	40 mM Tris-HCl, pH 8.0, 300 mM sodium chloride, 2.2 mM potassium chloride, 20% glycerol, and 0.2 mM TCEP
Protein Concentration:	***batch specific*** mg/ml
Specific Activity:	***batch specific*** U/mg

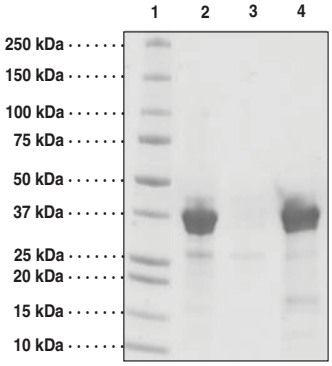
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: JAK2 JH2 Domain
Lane 2: MW Markers

SDS-PAGE Analysis of JAK2 JH2 Domain. This protein has a calculated molecular weight of 39 kDa.



Lane 1: MW Markers
Lane 2: Control
Lane 3: Flow through
Lane 4: Beads

Biotin-Avidin Analysis of JAK2 JH2 Domain.

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PRODUCT INFORMATION

Description

JAK2 is a non-receptor tyrosine kinase that has roles in immune signaling.[1,2] It is composed of N-terminal FERM and SH2 domains, a regulatory JH2 pseudokinase domain, and a C-terminal JH1 kinase domain. It is widely expressed and associates with class I and class II cytokine receptors at the plasma membrane.[3,4] Activation of these cytokine receptors activates JAK2 and induces its dimerization and kinase activity, leading to JAK2 phosphorylation of STAT transcription factors and transcription of immune-related target genes. JAK2 signaling is inhibited by the suppressor of cytokine signaling (SOCS) proteins SOCS1 and SOCS3.[5,6] Gain-of-function mutations in *JAK2*, such as JAK2^{V617F} in the JH2 domain, are associated with various blood disorders, including leukemias and myeloproliferative neoplasms.[4] Cayman's JAK2 JH2 Domain (human, recombinant; aa 513-827) - Biotinylated protein can be used for pull-down assays and has a calculated molecular weight of 39 kDa.

References

1. Leonard, W.J. and O'Shea, J.J. JAKS and STATS: Biological implications. *Annu. Rev. Immunol.* **16**, 293-322 (1998).
2. Haan, C., Kreis, S., Margue, C., *et al.* Jaks and cytokine receptors—an intimate relationship. *Biochem. Pharmacol.* **72(11)**, 1538-1546 (2006).
3. Parganas, E., Wang, D., Stravopodis, D., *et al.* Jak2 is essential for signaling through a variety of cytokine receptors. *Cell* **93(3)**, 385-395 (1998).
4. Hubbard, S.R. Mechanistic insights into regulation of JAK2 tyrosine kinase. *Front. Endocrinol. (Lausanne)* **8**, 361 (2018).
5. Kile, B.T. and Alexander, W.S. The suppressors of cytokine signalling (SOCS). *Cell. Mol. Life Sci.* **58(11)**, 1627-1635 (2001).
6. Yoshimura, A. and Yasukawa, H. JAK's SOCS: A mechanism of inhibition. *Immunity* **36(2)**, 157-159 (2012).

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