

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 (Sf9)
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

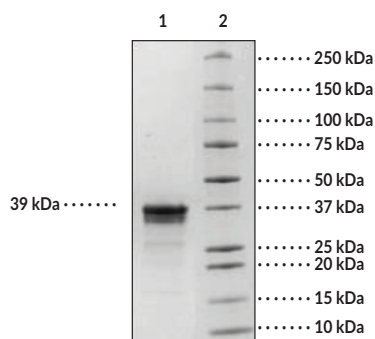
Protein

Concentration: *batch specific* mg/ml

Specific Activity: *batch specific* U/mg

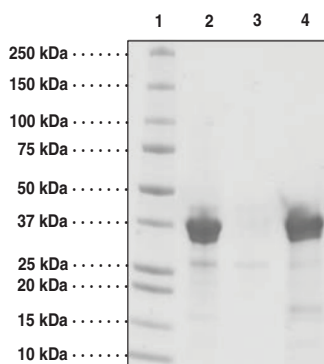
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

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.

WARNING
 THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
 This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
 Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/14/2024

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
 ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM