

PRODUCT INFORMATION



BACH2 (human, recombinant)

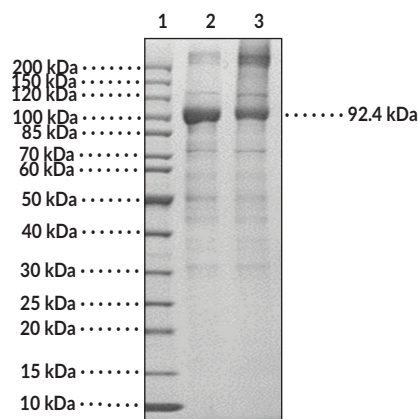
Item No. 45171

Overview and Properties

Synonym: BTB and CNC Homolog 2
Source: Recombinant human BACH2 expressed in insect cells
Amino Acids: 2-841
Uniprot No.: Q9BYV9
Molecular Weight: 92.4 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥90% estimated by SDS-PAGE
Supplied in: 50 mM Tris-HCl, pH 7.5, with 200 mM sodium chloride, and 20% glycerol
Endotoxin Testing: <1.0 EU/g, determined by the LAL endotoxin assay
Protein Concentration: *batch specific* mg/ml

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

Image



Lane 1: MW Markers
Lane 1: BACH2 (2 µg, reduced)
Lane 2: BACH2 (2 µg, non-reduced)

SDS-PAGE Analysis of BACH2. This protein has a calculated molecular weight of 92.4 kDa.

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.

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Description

BTB and CNC homolog 2 (BACH2) is a transcription factor and member of the basic leucine zipper (bZIP) family.¹ It is composed of a BTB domain, which participates in protein-protein interactions, an intrinsically disordered region, a bZIP domain, which mediates heterodimerization with small musculoaponeurotic fibrosarcoma (MAF) proteins, and a cytoplasmic localization signal and contains several heme binding sites. BACH2 is expressed in thymus, spleen, leukocytes, T lymphoid cells, and B- cells.² It functions as a transcriptional repressor and is involved in B and T cell maturation and differentiation, immune homeostasis, and oxidative stress-induced apoptosis.¹⁻⁴ Mutations in BACH2 are associated with immunodeficiency, colitis, and several autoimmune diseases, and increased intratumoral expression of BACH2 is associated with poor prognosis in patients with microsatellite instability-high (MSI-H) gastric cancer.^{5,6} Cayman's BACH2 (human, recombinant) protein has a calculated molecular weight of 92.4 kDa.

References

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2. Sasaki, S., Ito, E., Toki, T., *et al.* Cloning and expression of human B cell-specific transcription factor BACH2 mapped to chromosome 6q15. *Oncogene* **19(33)**, 3739-3749 (2000).
3. Tashiro, S., Muto, A., Tanimoto, K., *et al.* Repression of PML nuclear body-associated transcription by oxidative stress-activated Bach2. *Mol. Cell Biol.* **24(8)**, 3473-3484 (2004).
4. Yoshida, C., Yoshida, F., Sears, D.E., *et al.* Bcr-Abl signaling through the PI-3/S6 kinase pathway inhibits nuclear translocation of the transcription factor Bach2, which represses the antiapoptotic factor heme oxygenase-1. *Blood* **109(3)**, 1211-1219 (2007).
5. Afzali, B., Grönholm, J., Vandrovčova, J., *et al.* BACH2 immunodeficiency illustrates an association between super-enhancers and haploinsufficiency. *Nat. Immunol.* **18(7)**, 813-823 (2017).
6. Tian, R., Hu, J., Ma, X., *et al.* Immune-related gene signature predicts overall survival of gastric cancer patients with varying microsatellite instability status. *Aging (Albany NY)* **13(2)**, 2418-2435 (2020).

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