

Product Information



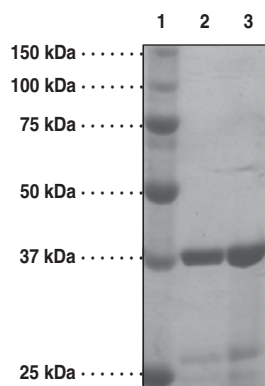
BRD4 bromodomain 2 (human recombinant; GST-tagged)

Item No. 11066 • Batch No. XXXXXX

Synonyms: Bromodomain containing protein 4, HUNK1, MCAP
Source: Recombinant N- terminal GST-tagged protein expressed in *E. coli*
Amino Acids: 342-460
Genbank Accession No.: NP_490597
M_r: 40.6 kDa
Purity: ≥80% estimated by SDS-PAGE
Stability: ≥6 months at -80°C
Supplied in: 50 mM Tris, pH 7.5, containing 500 mM sodium chloride, 5% glycerol, and 5 mM β-mercaptoethanol

Protein Concentration: *batch specific* mg/ml

The acetylation of histone lysine residues plays a crucial role in the epigenetic regulation of gene transcription. Acetylated lysine residues are recognized by a small protein domain known as a bromodomain.¹ These domains function in the linking of protein complexes to acetylated nucleosomes, thereby controlling chromatin structure and gene expression. The BET family of proteins, defined by tandem Bromodomains and an Extra Terminal domain, include BRD2, BRD3, BRD4, and BRDT.² The BET proteins play a key role in many cellular processes, including inflammatory gene expression, mitosis, and viral/host interactions.³⁻⁵ The isolated individual or tandem bromodomains of BRD2 and BRD4 have been shown to bind acetylated histone tails, serving to couple histone acetylation marks to the transcriptional regulation of target promoters.^{4,6-9} Small molecule inhibitors of these interactions hold promise as useful therapeutics for human disease.¹⁰⁻¹²



Lane 1: MW Markers
Lane 2: BRD4 Domain 2-GST (1 µg)
Lane 3: BRD4 Domain 2-GST (2 µg)

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. 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

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery.**

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy** located on our website and in our catalog.

Copyright Cayman Chemical Company, 12/11/2014

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com

Product Information



References

1. Mujtaba, S., Zeng, L., and Zhou, M.-M. Structure and acetyl-lysine recognition of the bromodomain. *Oncogene* **26**, 5521-5527 (2011).
2. Florence, B. and Faller, D.V. You bet-cha: A novel family of transcriptional regulators. *Front. Biosci.* **6**, D1008-D1018 (2011).
3. Hargreaves, D.C., Horng, T., and Medzhitov, R. Control of inducible gene expression by signal-dependent transcriptional elongation. *Cell* **138(1)**, 129-45 (2009).
4. LeRoy, G., Rickards, B., and Flint, S.J. The double bromodomain proteins Brd2 and Brd3 couple histone acetylation to transcription. *Mol. Cell* **30(1)**, 51-60 (2008).
5. Weidner-Glunde, M., Ottinger, M., and Schulz, T.F. WHAT do viruses BET on? *Front. Biosci.* **15**, 537-549 (2010).
6. Liu, Y., Wang, X., Zhang, J., *et al.* Structural basics and binding properties of the second bromodomain of Brd4 with acetylated histone tails. *Biochem.* **47**, 6403-6417 (2008).
7. Day, A., Chitsaz, F., Abbasi, A., *et al.* The double bromodomain protein Brd4 binds to acetylated chromatin during interphase and mitosis. *Proc. Natl. Acad. Sci. USA* **100(15)**, 8758-8763 (2003).
8. Umehara, T., Nakamura, Y., Wakamori, M., *et al.* Structural implications for K5/K12-di-acetylated histone H4 recognition by the second bromodomain of BRD2. *FEBS Lett.* **584(18)**, 3901-3908 (2010).
9. Umehara, T., Nakamura, Y., Jang, M.K., *et al.* Structural basis for acetylated histone H4 recognition by the human BRD2 bromodomain. *J. Biol. Chem.* **2855(10)**, 7610-7618 (2010).
10. Filippakopoulos, P., Qi, J., Picaud, S., *et al.* Selective inhibition of BET bromodomains. *Nature* **468(7327)**, 1067-73 (2011).
11. Hewings, D.S., Wang, M., Philpott, M., *et al.* 3,5-Dimethylisoxazoles act as acetyl-lysine-mimetic bromodomain ligands. *J. Med. Chem.* 1-30 (2011).
12. Chung, C.W., Coste, H., White, J.H., *et al.* Discovery and characterization of small molecule inhibitors of the BET family bromodomains. *J. Med. Chem.* **54(11)**, 3827-3838 (2011).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11066

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com