

## BRD2 (65-459aa), His, Human

Cat. No.: Z03185-100

Size: 100.0 ug

**Synonyms:** Bromodomain containing 2, RING3, FSH, NAT, RNF3

### Description:

Bromodomain (BRD) is an extensive family of protein domains, originally identified in and named after the *Drosophila* protein Brahma. Members of BRD family share a conserved atypical left-handed four helix bundle structure, and specifically bind to  $\epsilon$ -lysine acetylated proteins. It is well known that histone acetylation and methylation play a central role in epigenetics and are important for various gene transcription events, thus the acetyl-lysine binding property of BRDs make them suitable drug targets for epigenetics. Currently, there are 46 diverse human proteins containing 61 BRDs. These include histone acetyltransferases, ATP-dependent chromatin-remodeling complex proteins, and nuclear scaffold proteins. The main functions of BRDs *in vivo* include chromatin acetylation and deacetylation, nucleosome assembly and remodeling, and organizations of chromosome or chromatin domains.

Recombinant human BRD2 (65-459) with His tag produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 402 amino acids. A fully biologically active molecule, BRD2 (65-459) has a molecular mass of 45.3 kDa analyzed by reducing SDS-PAGE and is obtained by proprietary chromatographic techniques at GenScript.

### Amino Acid Sequence:

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00001 MHHHHHEVS NPKKGRVTN QLQYLHKVVM KALWKHFAW
00041 PFRQPVDAVK LGLPDYHKII KQPMDMGTIK RRENNYYWA
00081 ASECMQDFNT MFTNCYIYNK PTDDIVLMAQ TLEKIFLQKV
00121 ASMPQEEQEL VVTIPKNSHK KGAKLAALQG SVTSAHQVPA
00161 VSSVSHTALY TPPPEIPTTV LNIPHSVIS SPLLSLHSA
00201 GPPLLAVTAA PPAQLAKKK GVKRKADTTT PTPTAILAPG
00241 SPASPPGSLE PKAARLPPMR RESGRPIKPP RKDLPDSQQQ
00281 HQSSKKGKLS EQLKHCNGIL KELLSKHAH YAWPFYKPV
00321 ASALGLHDYH DIIKHPMDS TVKRMENRD YRDAQEFAAD
00361 VRLMFSNCYK YNPPDHVVA MARKLQDVFE FRYAKMPDEP
00401 LE
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**Source:** *E. coli*

**Species:** Human

**Biological Activity:** Assay condition: 50 mM HEPES, 50 mM NaCl, and 1 mM CHAPS, pH 7.5. Biotinylated acetyl-histone peptide substrate binding to Bromodomain reaction was performed by adding 200 nM substrate to serially diluted BRD, and incubation for 1 h at RT. Treatment with equivalent detection buffer (2 nM Eu-Anti-His and 40 nM U-light-SA in Assay buffer), and incubation for 1 h at RT subsequently followed.

**Molecular Weight:** 45.3 kDa, observed by reducing SDS-PAGE.

**Formulation:** Sterile liquid solution contains 25mM HEPES, pH7.5, 150mM NaCl, 5% glycerol, 0.5 mM TCEP. Frozen solution.

**Purity:** > 95% by reducing SDS-PAGE.

**Endotoxin Level:** < 1 EU/ $\mu$ g, determined by LAL method.

**Storage:** BRD2 (65-459) remains stable up to 6 months at -80°C from date of receipt. For maximum recovery of product, centrifuge original vial prior to removing the cap. Aliquot to avoid repeated thawing and freezing.