

## Recombinant SMARCA4 / BRG1 (1448-1569) protein

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**Catalog No:** 31401, 31804

**Expressed In:** *E. coli*

**Quantity:** 100 µg

**Concentration:** 3 µg/µl

**Source:** Human

**Buffer Contents:** Recombinant SMARCA4/BRG1 (1448-1569) protein is supplied at a concentration of 3 µg/µl in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 5% glycerol.

**Background:** SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4 (SMARCA4), also known as BRG1, is a member of the SWI/SNF family of proteins and is similar to the Brahma protein of *Drosophila*. Members of this family have helicase and ATPase activities and are thought to regulate transcription of certain genes by altering the chromatin structure around those genes. SMARCA4 contains bromodomains for interaction with other proteins. The bromodomain functions as a 'reader' of epigenetic histone marks and regulates chromatin structure and gene expression by linking associated proteins to the recognized acetylated nucleosomal targets. SMARCA4 is part of the large ATP-dependent chromatin remodeling complex SNF/SWI which is required for transcriptional activation of genes normally repressed by chromatin. In addition, this protein can bind BRCA1, as well as regulate the expression of the tumorigenic protein CD44. Gene mutation causes Rhabdoid Tumor Predisposition Syndrome Type 2. SMARCA4 functions as a transcriptional coactivator cooperating with nuclear hormone receptors to potentiate transcriptional activation. It also interacts with glucocorticoid receptor (GR), TOPBP1 and progesterone receptor (PR) and is a component of the BAF53 complex which acetylates histone H4 and H2A within nucleosomes. Somatic mutations of SMARCA4 have been detected in some cancer cell lines and loss of SMARCA4 is associated with decreased survival in cancer patients.

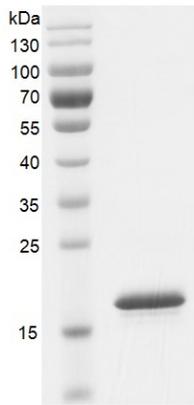
**Protein Details:** Recombinant SMARCA4/BRG1 (1448-1569) protein that includes amino acids 1448-1569 of human SMARCA4/BRG1 protein (accession number NP\_003063.2) was expressed in *E. coli* and contains an N-terminal His tag and C-terminal FLAG tag with a molecular weight of 20.4 kDa. The purity of the protein is >90% by SDS-PAGE. It shows binding specificity for acetylated H2BK5, H3K14 and H3K9.

**Application Notes:** Recombinant SMARCA4 / BRG1 (1448-1569) is suitable for use in binding assays, inhibitor screening, and selectivity profiling.

**Storage and Guarantee:** Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.

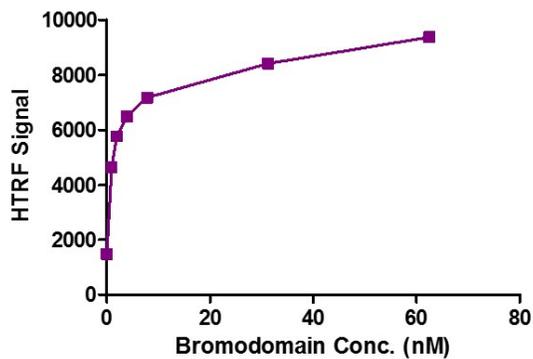
### SMARCA4 (1448-1569)



### Recombinant SMARCA4 / BRG1 (1448-1569) protein gel.

SMARCA4 / BRG1 (1448-1569) protein was run on a 10% SDS-PAGE gel and stained with Coomassie Blue.

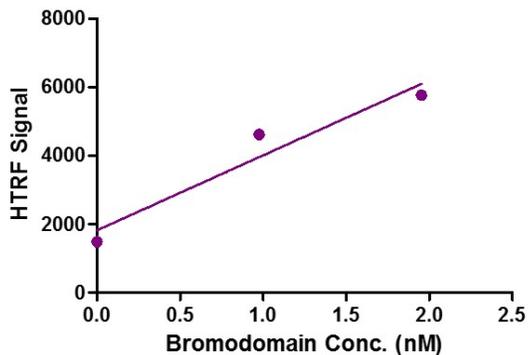
### SMARCA4/BRG1 Titration



### HTRF Assay for Recombinant SMARCA4/BRG1 (1448-1569)

**Activity.** 3.3  $\mu$ M histone peptide H3K14ac was incubated with SMARCA4/BRG1 (1448-1569) in reaction buffer including 50 mM HEPES-NaOH pH 7.0, 0.1% BSA for 1 hour at room temperature. Anti-FLAG antibody was used to detect reaction products.

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