

# BTG2 (1A5): sc-517187

## BACKGROUND

B cell translocation gene proteins, also designated BTG1-4, are members of a novel antiproliferative gene family and play a role in transcription regulation. BTG genes are considered immediate early genes whose expression is induced in response to mitogenic as well as differentiative and antiproliferative factors. Expression of BTG1 is maximal in the G<sub>0</sub>/G<sub>1</sub> phases of the cell cycle and is downregulated when cells progress through G<sub>1</sub>. BTG2 is a p53 inducible, antiproliferative protein that regulates the G<sub>1</sub>/S transition of the cell cycle. BTG2 expression increases in response to DNA damage, cell differentiation, cell quiescence, cell contact and as part of a positive feedback mechanism in response to growth stimulation. High levels of BTG2 are present in kidney proximal tubules, lung alveolar bronchial epithelium, and the basal cell layer of prostate acini. BTG1 and BTG2 both contain LXXLL motifs, referred to as nuclear receptor boxes, which are involved in the regulation of ER-mediated activation. Human BTG3 protein is abundantly expressed in testis, prostate, ovary, thymus and lung.

## REFERENCES

- Rouault, J.P., et al. 1992. BTG1, a member of a new family of antiproliferative genes. *EMBO J.* 11: 1663-1670.
- Rouault, J.P., et al. 1996. Identification of BTG2, an antiproliferative p53-dependent component of the DNA damage cellular response pathway. *Nat. Genet.* 14: 482-486.
- Prevot, D., et al. 2001. Relationships of the antiproliferative proteins BTG1 and BTG2 with CAF1, the human homolog of a component of the yeast CCR4 transcriptional complex: involvement in estrogen receptor  $\alpha$  signaling pathway. *J. Biol. Chem.* 276: 9640-9648.
- Tirone, F. 2001. The gene PC3<sup>TIS21</sup>/BTG2, prototype member of the PC3/BTG/TOB family: regulator in control of cell growth, differentiation, and DNA repair? *J. Cell. Physiol.* 187: 155-165.
- Melamed, J., et al. 2002. Expression of B-cell translocation gene 2 protein in normal human tissues. *Tissue Cell* 34: 28-32.
- Duriez, C., et al. 2002. The human BTG2/TIS21/PC3 gene: genomic structure, transcriptional regulation and evaluation as a candidate tumor suppressor gene. *Gene* 282: 207-214.

## CHROMOSOMAL LOCATION

Genetic locus: BTG2 (human) mapping to 1q32.1.

## SOURCE

BTG2 (1A5) is a mouse monoclonal antibody raised against amino acids 59-158 representing partial length BTG2 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

BTG2 (1A5) is recommended for detection of BTG2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BTG2 siRNA (h): sc-43645, BTG2 shRNA Plasmid (h): sc-43645-SH and BTG2 shRNA (h) Lentiviral Particles: sc-43645-V.

Molecular Weight (predicted) of BTG2: 17 kDa.

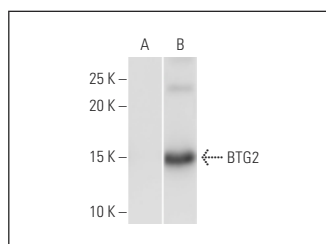
Molecular Weight (observed) of BTG2: 20 kDa.

Positive Controls: BTG2 transfected 293T whole cell lysate.

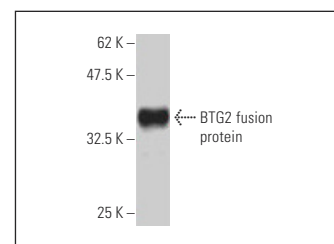
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



BTG2 (1A5): sc-517187. Western blot analysis of BTG2 expression in non-transfected (A) and BTG2 transfected (B) 293T whole cell lysates.



BTG2 (1A5): sc-517187. Western blot analysis of human recombinant BTG2 fusion protein.

## SELECT PRODUCT CITATIONS

- Gao, S.S., et al. 2016. Inhibitory effects of B-cell translocation gene 2 on skin cancer cells via the Wnt/ $\beta$ -catenin signaling pathway. *Mol. Med. Rep.* 14: 3464-3468.
- Fonseca-Camarillo, G., et al. 2020. Expression of TOB/BTG family members in patients with inflammatory bowel disease. *Scand. J. Immunol.* E-published.
- Huang, H., et al. 2021. Pivwil1 regulates glioma stem cell maintenance and glioblastoma progression. *Cell Rep.* 34: 108522.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.