3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-Brg1 antibody, Rat monoclonal
clone 5B7, purified from hybridoma cell culture

Product Number **SAB4200195**

Product Description

Anti-Brg1 (rat IgG2a isotype) is derived from the hybridoma 5B7 produced by the fusion of mouse myeloma cells (SP2) and splenocytes from rat immunized with a fusion protein corresponding to a fragment of human Brg1 (GeneID; 6597). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti-Brg1 recognizes human, mouse, and monkey Brg1. The product may be used in several immunochemical techniques including immunoblotting (~185 kDa), immunocytochemistry, immuno-precipitation, and chromatin immunoprecipitation.[1]

Chromatin remodeling proteins have been shown to alter local chromatin structure and facilitate recruitment of essential factors required for transcription. These chromatin-modifying enzymes use energy derived from ATP hydrolysis to actively alter the nucleosomal structure.[2] BRG1 (or hBrm) protein is the central catalytic ATPase of the SWI/SNF chromatin-remodeling complex, which is involved in transcriptional modulation of hormone-responsive promoters through binding of the complex to various nuclear receptors and its recruitment to gene-specific promoters.[3] In addition, BRG1 has also been shown to act as a transcriptional repressor. It interacts with retinoblastoma tumor suppressor to form a repressor complex which inhibits cell cycle proteins such as cyclins A, D1, and E.[4]

Furthermore, the BRG1 catalytic subunit of mammalian SWI/SNF-related complexes co-localizes with origin recognition complexes, GINS complexes, and proliferating cell nuclear antigen at sites of DNA replication on extended chromatin fibers. The specific pattern of BRG1 occupancy suggests it does not participate in origin selection but is involved in the firing of origins and the process of replication elongation.[5] This novel function of BRG1 is consistent with its requirement during embryogenesis and its role as a tumor suppressor to maintain genome stability and prevent cancer.[3,5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at –20 °C. For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze at –20 °C in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 0.5-1.0 µg/mL is recommended using HeLa, HEK-293T, Raji, or HepG2 cells extracts.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. de la Serna, I., et al., *J. Biol. Chem.,* **281**, 20233–20241 (2006).
2. Eberharter, A., and Becker, P.B., *J. Cell. Sci.,* **117**, 3707-3711 (2004).
3. Trotter, W.K., and Archer, T.K., *Nucl. Recept. Signal.,* **6**, e004 1-12 (2006).
4. Zhang, H.S., et al., *Cell*, **101**, 79-89 (2000).
5. Cohen, S.M., et al., *Nucleic Acid Res.,* [Epub ahead of print: doi:10.1093/nar/gkq559] (2010).

RC,VS,CS,GG,PHC,MAM 04/21-1