Product Information

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Anti-Brg1/hSNF2β
produced in rabbit, IgG fraction of antiserum

Catalog Number **B8184**

Product Description

Anti- Brg1/hSNF2β is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 1572-1585 of human Brg1 conjugated to KLH via an N-terminal added cysteine. The sequence is conserved in mouse. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-Brg1/hSNF2β recognizes Brg1 (200 kDa) by immunoblotting and immunofluorescence. Staining of Brg1 in immunoblotting is specifically inhibited with the Brg1/hSNF2β immunizing peptide.

Chromatin, the physiological packaging structure of histone proteins and DNA, is considered a key element in regulating gene expression.[1] Several complexes involved in transcriptional regulation function by either modifying histones or altering chromatin structure. Post-translational modifications of histones, such as acetylation, phosphorylation and methylation, contribute to the regulation of transcription.[2-4] The ATP-dependent chromatin-remodeling complexes alter chromatin structure by using the energy of ATP hydrolysis to locally disrupt the association of histones with DNA, displacing the nucleosomes from promoter and enhancer regions, and therefore allowing transcription initiation.[5]

Chromatin remodeling complexes have been purified from a variety of organisms, and most cell types contain more than one type of complex. These complexes contain structurally related catalytic subunits, but differ in the way in which they manipulate chromatin.[5, 6] Three families of complexes have been described: the SWI/SNF family, ISWI family, and Mi-2 family.[5-7] The SWI/SNF family of ATP-dependent remodeling complexes was identified in yeast, *drosophila*, and human. It causes nucleosomes to change structure and/or position in order to allow transcriptional activators to gain access to their target sites.[8, 9] In humans, two conserved ATPase subunits were identified as hBrm and hBrg1. Brg1 (1,613 amino acids) is highly related to hBrm (52% identity).[10, 11]

Components of the hSWI/SNF complexes have been implicated in a range of cellular events including gene activation, regulation of cell growth, and development.[12] Brg1 and hBrm enhance transcriptional activation by glucocorticoid receptors.[11] Apparently, Brg1 and Brm complexes direct distinct cellular processes by recruitment to specific promoters through protein-protein interactions that are unique to each ATPase.[13] The remodeling complexes were traditionally associated with transcriptional activation. However, SWI/SNF has been found associated with repressor complexes, such as HDAC (histone deacetylase) and Rb (retinoblastoma) in a complex that leads to cell cycle arrest, suggesting that they are associated with transcriptional repression.[14] Brg1 also mutates in multiple human tumor cell lines strengthening the hypothesis that regulation of gene expression through chromatin remodeling plays a key role in cancer progression.[15]

Antibodies reacting specifically with Brg1 may be used for studying the effects of chromatin remodeling on gene expression.

Reagent

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

Antibody concentration: 5-12 mg/ml

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1:4,000-1:8,000 is recommended using nuclear extracts of HeLa cells.

Indirect immunofluorescence: a working concentration of 10-20 µg/ml is recommended using CHO cells fixed with paraformaldehyde/Triton®.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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MG,KAA,PHC 01/08-1