Product Information

3050 Spruce Street, Saint 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

Anti-hSNF5/INI1
produced in rabbit, affinity isolated antibody

Catalog Number **H9912**

Product Description

Anti-hSNF5/INI1 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 276-288 of human SNF5 (GeneID: 6598), conjugated to KLH through an N-terminal added cysteine. The sequence is conserved in mouse. The antibody is affinity purified using the immunizing peptide immobilized on agarose

Anti-hSNF5/INI1 recognizes hSNF5/INI1 by Immunoblotting, doublet at 42-45 kDa, and immunofluorescence. Staining of the hSNF5/INI1 band in immunoblotting is specifically inhibited with the 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 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]

The SWI/SNF complex was originally identified in yeast as a 2 MDa complex, later shown to be highly conserved in all eukaryotes.[8-11] 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] The human homologue of yeast SNF5 was identified in a two-hybrid screening performed to identify binding targets of the integrase of HIV, and the gene called INI1.[13] Many studies have indicated that yeast SNF and its human counterparts are able to interact with sequence-specific transcription factors, which may recruit the complex to specific genes.[14, 15] For example, it has been shown that hSNF5/INI1 interacts with the protooncogene c-Myc and the SWI complex is necessary for c-Myc mediated transactivation.[15] Mutations in SNF5 and Brg1, both SWI components, suggest a connection of the complex with cancer. In fact, hSNF5 displays properties of a tumor-suppressor gene, as sporadic rhabdoid tumors show biallelic loss-of-function mutations, and germline mutations confer an autosomal-dominant syndrome that predisposes patients to a variety of rhabdoid cancers.[16, 17]
Antibodies reacting specifically with hSNF5/INI1 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: ~1 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 concentration of 0.5-1 µg/mL is recommended using HeLa nuclear extracts.

Indirect immunofluorescence: a working concentration of 1-2 µg/mL is recommended using paraformaldehyde/Triton® fixed hSNF5/INI1-transfected HEK-293T cell line.

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

References

1. Kornberg, R.D., and Lorch, Y., *Cell*, **98**, 285-294 (1999).
2. Strahl, B.D., and Allis, C.D., *Nature*, **403**, 41-45 (2000).
3. Wolffe, A.P., and Guschin, D., *J. Struct. Biol*., **129**, 102-122 (2000).
4. Bird, A., and Wolffe, A.P., *Cell*, **99**, 451-454 (1999).
5. Sudarsanam, P., and Winston, F., *TIG*, **16**, 345-350 (2000).
6. Wang, W., et al., *EMBO J*., **15**, 5370-5382 (1996).
7. Muchardt, C., et al., *EMBO J*., **115**, 3394-3402 (1996).
8. Boyer, L.A., et al., *J. Biol. Chem*., **275**, 18864-18870 (2000).
9. Phelan, M.L., et al., *Mol. Cell*, **3**, 247-253 (1999).
10. Khavari, P.A., et al., *Nature*, **366**, 170-174 (1993).
11. Muchardt, C., and Yaniv, M., *EMBO J*., **12**, 4279-4290 (1993).
12. Biggar, S.R., and Cratbtree, G.R., *EMBO J*., **18**, 2254-2264 (1999).
13. Kalpana, G.V., et al., *Science*, **266**, 2003-2006 (1994).
14. Neely, K.E., et al., *Mol. Cell. Biol*., **22**, 1615-1625 (2002).
15. Cheng, S.-W.G., *Nature Genet*., **22**, 102-105 (1999).
16. Roberts, C.W.M., et al., *Proc. Natl. Acad. Sci. USA*, **25**, 13796-13800 (2000).
17. Versteege, I., et al., *Nature*, **394**, 203-206 (2000

MG,KAA,PHC 10/07-1