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ProductInformation

Anti-Sin3A, C-Terminal
Produced in Rabbit, Affinity Isolated Antibody

Product Number **S 6695**

Product Description

Anti Sin3A, C-terminal is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 1267-1282 of human Sin3A, conjugated to KLH via an N-terminal added cysteine residue. The immunizing peptide is conserved in human, mouse, and rat and is not present in Sin3B. The antibody is affinity purified on the immunizing peptide immobilized on agarose.

Anti Sin3A, C-terminal specifically recognizes human Sin3A. Applications include immunoblotting (160 kDa) and immunoprecipitation. In some cell lines, Sin3A is detected as a doublet (150-160 kDa). Staining of the Sin3A band in immunoblotting is specifically inhibited by the immunizing peptide.

Gene transcription in eukaryotes is controlled by a dynamyc interplay between transcriptional activation and repression, both taking place in the context of chromatin.[1, 2] Therefore, chromatin remodeling is one of the critical steps in gene silencing.[3, 4] Chromatin remodeling factors drive mobilization of the nucleosome by both, catalyzation of ATP hydrolysis, as well as by histone deacetylation.[5-7] The acetylation status of histones at specific DNA regulatory sequences depends on the recruitment of histone acetyltransferase or histone deacetylase (HDAC) activities, usually as part of large multiprotein complexes of coactivators or corepressors, respectively.[2, 7] Sin3A and Sin3B were initially identified in mouse as proteins required for the transcription and growth suppressor functions of the Mad1 and Mx1 proteins.[8] Since then, mSin3A and mSin3B have been implicated as corepressors with the ability to interact with several transcriptional repressors with functions in diverse cellular processes including proliferation, differentiation, apoptosis, oncogenesis and cell fate determination.[2, 9, 10]

Human Sin3A is a 1273 amino acids protein containing paired amphipathic helix (PAH) domains, important for protein-protein interactions.[8] The Sin3A/HDAC correpressor complex contains a module composed of Sin3A, HDAC1, HDAC2, RbAp46, RbAp48, SAP30, and others.[11] Several transcription repressors exert their effects by recruitment of the Sin3A/HDAC complex. For example, Snail mediates repression of E-cadherin through formation of a multimolecular complex with Sin3A/HDAC.[12] Interestingly, the methyl-CpG binding protein MeCP2 can recruit the Sin3-HDAC complex to CpG-methylated DNA by binding to Sin3A; recruitment of the corepressor complex by chromatin-bound MeCP2 may lead to local deacetylation of core histones and elimination of transcription.[9] Repression of transcription by the Sin3A/HDAC complex can yet be achieved through its interaction with *O*-GlcNAc transferase (OGT); Sin3A targets OGT to promoters, inactivating transcription factor,s and RNA Polymerase II through the addition of *O*-GlcNAc residues.[13]

Reagent

The antibody is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: Approx. 1.2 mg/mL

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also 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
By immunoblotting, a working antibody concentration of 2.5-5.0 µg/mL is recommended using HeLa nuclear extracts.

By immunoprecipitation, 5-10 µg of the antibody immunoprecipitates Sin3A from 293-T cell lysates.

Recommendation: for immunoblotting, dilute the antibody in PBS containing 1% non-fat dry milk and 0.05% Tween™20.

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

References

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