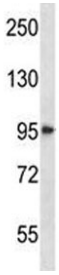
HDAC4 Polyclonal Antibody / Class IIa HDAC Antibody (F43191)

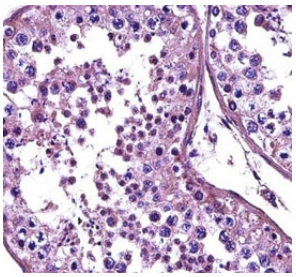
Catalog No.	Formulation	Size
F43191-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F43191-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

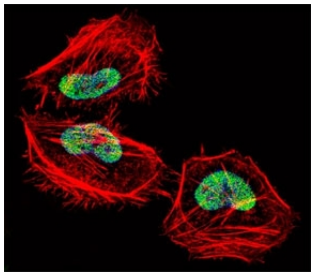
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P56524
Localization	Nucleus
Applications	Western blot: 1:1000 IHC (Paraffin): 1:10-1:50 Immunofluorescence: 1:10-1:50
Limitations	This HDAC4 Polyclonal Antibody / Class IIa HDAC Antibody is available for research use only.



HDAC4 Polyclonal Antibody NCI-H292 Cell WB. Western blot analysis of human NCI-H292 cell lysate using HDAC4 Polyclonal Antibody. A prominent band is detected at approximately 95 kDa, consistent with a truncated form of HDAC4; full-length HDAC4 may be detected at approximately 140 kDa. This HDAC4 Antibody, also called a Class IIa HDAC Antibody, detects HDAC4 in human NCI-H292 cells and supports studies of Class IIa HDAC biology, transcriptional regulation and signal-dependent gene expression.



HDAC4 Polyclonal Antibody Human Testis IHC. IHC staining of formalin-fixed, paraffin-embedded human testis tissue using HDAC4 Polyclonal Antibody. Positive HDAC4 staining is observed in cells of the seminiferous tubules. This HDAC4 Antibody, also called a Class IIa HDAC Antibody, demonstrates HDAC4 expression in human testis and supports studies of Class IIa HDAC biology, transcriptional regulation and signal-dependent gene expression.



HDAC4 Polyclonal Antibody HeLa Cell Confocal IF. Confocal immunofluorescence analysis of human HeLa cells using HDAC4 Polyclonal Antibody at 1:25. HDAC4 immunoreactivity is concentrated in the nucleus, consistent with its role in transcriptional regulation. This HDAC4 Antibody, also called a Class IIa HDAC Antibody, demonstrates nuclear localization of HDAC4 in human HeLa cells and supports studies of Class IIa HDAC biology, nuclear-cytoplasmic trafficking and transcriptional repression.

Description

HDAC4 Polyclonal Antibody / Class IIa HDAC Antibody recognizes HDAC4, a signal-responsive transcriptional regulator belonging to the Class IIa family of histone deacetylases. Together with HDAC5, HDAC7 and HDAC9, HDAC4 is distinguished from Class I HDACs by an extended N-terminal regulatory domain that mediates interactions with transcription factors and signaling proteins. HDAC4 can shuttle between the nucleus and cytoplasm, allowing changes in cellular signaling to influence its access to nuclear transcriptional machinery. This dynamic regulation makes HDAC4 an important target for investigating the relationship between signal transduction, chromatin regulation and gene expression.

Class IIa HDAC proteins function extensively through interactions with transcription factors and corepressor complexes. HDAC4 contains binding regions for members of the MEF2 transcription factor family and can suppress MEF2-dependent transcription when localized to the nucleus. HDAC4 can also associate with corepressor proteins and enzymatically active HDAC complexes, providing a mechanism for linking transcription factor activity with chromatin-dependent repression. An HDAC4 Antibody can therefore support studies of Class IIa HDAC function, transcriptional repression and the protein interactions that regulate gene expression.

Subcellular trafficking is a major mechanism controlling HDAC4 activity. Phosphorylation at specific regulatory sites promotes association with 14-3-3 proteins and favors HDAC4 export from the nucleus. Conversely, changes in phosphorylation state can promote nuclear accumulation and increase the opportunity for HDAC4 to interact with transcriptional regulators. Calcium-dependent and kinase-mediated signaling pathways can influence this process, enabling extracellular and intracellular signals to modify transcription through regulated HDAC4 localization. These properties have made HDAC4 a useful model for studying signal-dependent nuclear-cytoplasmic trafficking of transcriptional coregulators.

HDAC4-mediated transcriptional regulation contributes to numerous developmental and physiological processes. Its interaction with MEF2 proteins is particularly relevant to skeletal muscle, neuronal and cardiovascular biology, while HDAC4 also participates in mechanisms controlling bone and cartilage development. Changes in HDAC4 expression, phosphorylation or localization have additionally been investigated in cancer and neurological disease. Because Class IIa HDAC activity is highly dependent on cellular context and regulatory interactions, examining HDAC4 expression together with its localization can provide useful information about its potential transcriptional state.

As a Class IIa HDAC, HDAC4 provides a direct molecular connection between cellular signaling and transcriptional regulation. Its regulated nuclear-cytoplasmic trafficking, phosphorylation and interactions with transcription factors distinguish its biology from that of the predominantly nuclear Class I HDAC proteins. NSJ Bioreagents supplies antibodies to HDAC4 and related proteins involved in signal-dependent gene regulation. An HDAC4 Polyclonal Antibody can support

research on Class IIa HDAC biology, transcriptional repression, nuclear-cytoplasmic trafficking, chromatin regulation and cellular signaling.

For additional information on HDAC4 and its roles in Class IIa HDAC signaling, chromatin regulation and transcriptional control, see our HDAC4 Antibody page.

Application Notes

Titration of the HDAC4 Polyclonal Antibody / Class IIa HDAC Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 1049-1077 from the human protein was used as the immunogen for this HDAC4 Polyclonal Antibody.

Storage

Aliquot the HDAC4 Polyclonal Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

HDAC4 antibody, Class IIa HDAC antibody, Histone Deacetylase 4 antibody, Histone Deacetylase-4 antibody, Class IIa Histone Deacetylase 4 antibody, KIAA0288 antibody

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