

HDAC10 (F-4): sc-376121

BACKGROUND

Histone deacetylases (HDACs) play an important role in the modification of chromatin structure and thus in the suppression and activation of transcription and cellular differentiation. There are 11 members in the HDAC family that are divided into four classes. Class I HDACs represent homologs of the yeast histone deacetylase Rpd3, class II HDACs share strong homology with the yeast histone deacetylase Hda1, class III HDACs are closely related to the yeast Sir2 protein and class IV HDACs comprise histone deacetylase 11 (HDAC11)-related enzymes. HDAC10, also known as HD10, is a member of the class II HDACs. It contains an N-terminal Hda1p-related catalytic domain and a unique C-terminal leucine-rich domain. HDAC10 is ubiquitously expressed and can shuttle between the cytoplasm and nucleus in response to cellular signals. It is able to repress transcription and, like other class II HDAC members, its enzymatic activity is inhibited by trichostatin A (TSA).

REFERENCES

1. Tong, J.J., et al. 2002. Identification of HDAC10, a novel class II human histone deacetylase containing a leucine-rich domain. *Nucleic Acids Res.* 30: 1114-1123.
2. Guardiola, A.R., et al. 2002. Molecular cloning and characterization of a novel histone deacetylase HDAC10. *J. Biol. Chem.* 277: 3350-3356.
3. Fischer, D.D., et al. 2002. Isolation and characterization of a novel class II histone deacetylase, HDAC10. *J. Biol. Chem.* 277: 6656-6666.
4. Matsuyama, A., et al. 2002. *In vivo* destabilization of dynamic microtubules by HDAC6-mediated deacetylation. *EMBO J.* 21: 6820-6831.
5. Brush, M.H., et al. 2004. Deacetylase inhibitors disrupt cellular complexes containing protein phosphatases and deacetylases. *J. Biol. Chem.* 279: 7685-7691.
6. Acharya, M.R., et al. 2005. Rational development of histone deacetylase inhibitors as anticancer agents: a review. *Mol. Pharmacol.* 68: 917-932.
7. Hess-Stumpp, H. 2005. Histone deacetylase inhibitors and cancer: from cell biology to the clinic. *Eur. J. Cell Biol.* 84: 109-121.
8. Moradei, O., et al. 2005. Histone deacetylase inhibitors: latest developments, trends and prospects. *Curr. Med. Chem. Anticancer Agents* 5: 529-560.

CHROMOSOMAL LOCATION

Genetic locus: HDAC10 (human) mapping to 22q13.33.

SOURCE

HDAC10 (F-4) is a mouse monoclonal antibody raised against amino acids 61-116 mapping near the N-terminus of HDAC10 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

HDAC10 (F-4) is recommended for detection of HDAC10 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HDAC10 siRNA (h): sc-72307, HDAC10 shRNA Plasmid (h): sc-72307-SH and HDAC10 shRNA (h) Lentiviral Particles: sc-72307-V.

Molecular Weight of HDAC10: 70 kDa.

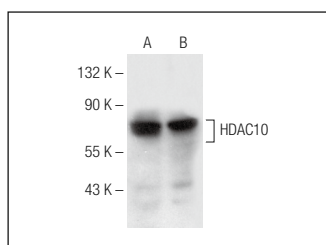
Positive Controls: A-375 cell lysate: sc-3811 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

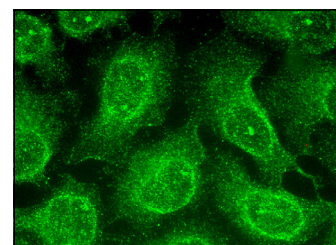
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HDAC10 (F-4): sc-376121. Western blot analysis of HDAC10 expression in A-375 (A) and Jurkat (B) whole cell lysates.



HDAC10 (F-4): sc-376121. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Dose, A., et al. 2016. Interrogating substrate selectivity and composition of endogenous histone deacetylase complexes with chemical probes. *Angew. Chem. Int. Ed Engl.* 55: 1192-1195.
2. Fan, Q., et al. 2021. A novel ZIP4-HDAC4-VEGFA axis in high-grade serous ovarian cancer. *Cancers* 13: 3821.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.