Go-ChIP-Grade™ Purified anti-HDAC2 Antibody

Catalog# / Size	680103 / 25 µg 680104 / 100 µg
Clone	13G8C67
Regulatory Status	RUO
Other Names	Histone Deacetylase 2, YY1-Associated Factor 1, HD2, Transcriptional Regulator Homolog RPD3, YAF1
Isotype	Mouse IgG1, κ
Description	HDAC2 is a member of the class I histone deacetylase (HDACs) family, which modulates the chromatin structure by removing acetyl groups from the side chain of lysine residues on the N-terminal region of core histones. HDAC2 lacks DNA binding activity and executes its function by recruiting transcription factors and forming large transcriptional repressor complexes. In addition to histones, HDAC2 can deacetylate transcription factors and modify their transcriptional activity. HDAC2 is highly homologous to HDAC1 in regulating cell proliferation, differentiation, and apoptosis. HDAC2 has been shown to negatively regulate synaptic plasticity and memory formation. Elevated activity of HDAC2 has been associated with the loss of memory and neuronal degeneration.

Product Details

Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Human HDAC2 peptide (471-488 a.a.) conjugated to KLH.
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	ChIP - *Quality tested* WB, IP, ICC, KO/KD-WB - *Verified*
Recommended Usage	Each lot of this antibody is quality control tested by ChIP Assay. The suggested dilution for ChIP application is 1:50-1:100 by volume. For Western blotting, the suggested use of this reagent is 0.5 - 2.5 µg per ml. For immunoprecipitation, the suggested use of this reagent is 10 - 30 µg per ml. For immunocytochemistry, a concentration range of 0.1 - 10 µg/ml is recommended. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	25 µg and 100 µg of Go-ChIP-Grade™ Purified Antibody can be used for 2-5 or 10-20 immunoprecipitations, respectively, at the recommended dilutions.
RRID	AB_2632895 (BioLegend Cat. No. 680103) AB_2632842 (BioLegend Cat. No. 680104)

Antigen Details

Structure	488 amino acids with a predicted molecular weight of 55.4 kD. It contains a histone deacetylase domain.
Distribution	Widely expressed in many cell types; nucleus.
Function	HDAC2 is a histone deacetylase responsible for the deacetylation of Îµ-amino acid group of

	lysine residues on the N-terminal tail of core histones (H2A, H2B, H3, H4). HDAC2 forms complex with transcription factors and acts as a transcriptional co-repressor.
Interaction	Forms histone deacetylase complexes with HDAC1, RBBP4, and RBBP7. Interacts with GFI1, SNW1, HDAC7, PRDM6, SAP30, SETDB1, SUV39H1, H2AFY, ATR, CBFA2T3, BCL-6, DNMT1, MINT, HDAC10, HCFC1, NRIP1, KDM4A, TSHZ3 and PELP1.
Biology Area	Cell Biology, Chromatin Remodeling/Epigenetics, Transcription Factors
Antigen References	1. Winter M, *et al.* 2013. *EMBO J.* 32:3176. 2. Ma P, *et al.* 2013. *PLoS Genet.* 9:e1003377. 3. Kurita M, *et al.* 2012. *Nat. Neurosci.* 15:1245. 4. Segre CV, *et al.* 2011. *J. Biomed. Biotechnol.* 2011:690848. 5. Brunmeir R, *et al.* 2009. *Int. J. Dev. Biol.* 53:275. 6. Guan JS, *et al.* 2009. *Nature* 459:55.
Gene ID	3066

Related Protocols

BioLegend's Tools for Chromatin Immunoprecipitation (ChIP) Assays - Video

Chromatin Immunoprecipitation (ChIP) Assay Protocol

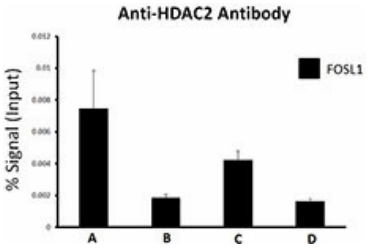
Immunocytochemistry Staining Protocol

Western Blotting Protocol

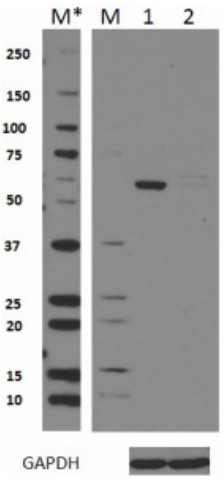
Other Formats

Purified anti-HDAC2, Go-ChIP-Grade™ Purified anti-HDAC2, Direct-Blot™ HRP anti-HDAC2

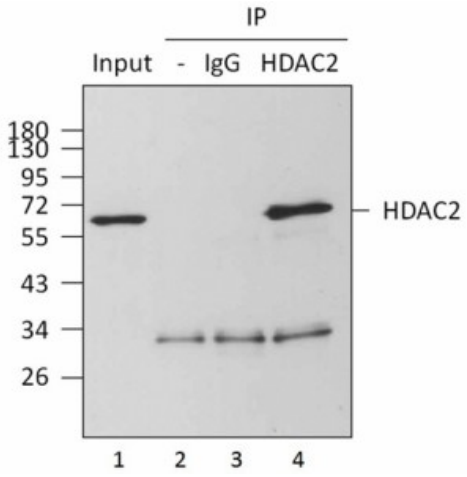
Product Data



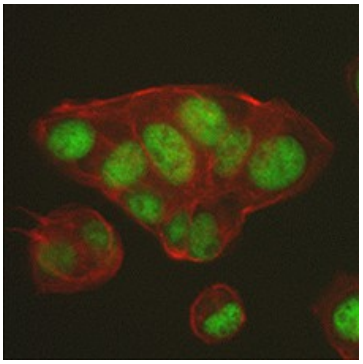
Chromatin Immunoprecipitation (ChIP) was performed using commercial Protein-G coated 96 well high-throughput ChIP assay kit by loading 3 µg of cross-linked chromatin samples from Jurkat cells with either A) 1:100 dilution of Go-ChIP-Grade™ Purified anti-HDAC2 Antibody (clone 13G8C67), B) equal amount of Purified Mouse IgG1, κ Isotype Control Antibody (clone MG1-45), or C) competitor's ChIP-grade Purified anti-HDAC2 Antibody and D) equal amount of matched Isotype Control Antibody as recommended by the manufacturer. The enriched DNA was purified and quantified by real-time qPCR using primers targeting human FOSL1 (Fos like 1) gene region, which is known to be bound to HDAC2. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the 5% of total amount of input chromatin.



Total lysates (15 µg protein) from 293T (lane 1) and 293T/HDAC2 knockdown (KD) cells (lane 2) were resolved by electrophoresis (4-20% Tris-Glycine gel), transferred to nitrocellulose, and probed with 1:500 diluted (1 µg/mL) Purified anti-HDAC2 Antibody, clone 13G8C67 (upper) or 1:3000 diluted Purified anti-GAPDH Antibody, clone poly6314 (lower). Proteins were visualized by chemiluminescence detection using a 1:3000 diluted goat anti-mouse-IgG secondary antibody conjugated to HRP for the anti-HDAC2 Antibody, and a donkey anti-rabbit IgG Antibody conjugated to HRP for anti-GAPDH Antibody. Lane M: Molecular weight ladder, M* indicates longer exposure.



Immunoprecipitation of HDAC2 from 293T cell extracts. Lane 1 is 5% input. Immunoprecipitation was performed using protein G resins only (lane 2), mouse IgG isotype control (lane 3), and anti-HDAC2 antibody (clone 13G8C67, lane 4). Western blot was performed using anti-HDAC2 antibody (clone 13G8C67).



HepG2 cells were stained with purified anti-HDAC2 (clone 13G8C67) antibody, followed by staining with DyLight™ 488 conjugated goat anti-mouse IgG (green) antibodies, and then Alexa Fluor® 594 conjugated phalloidin (red).

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