

Goat Anti-CDYL Antibody
Peptide-affinity purified goat antibody
Catalog # AF1225a**Specification**

Goat Anti-CDYL Antibody - Product Information

Application	WB
Primary Accession	O9Y232
Other Accession	NP_001137443 , 9425 , 12593 (mouse)
Reactivity	Human
Predicted	Mouse, Rat, Pig, Dog, Cow
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	66482

Goat Anti-CDYL Antibody - Additional Information**Gene ID** 9425**Other Names**

Chromodomain Y-like protein, CDY-like, 2.3.1.48, CDYL, CDYL1

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Goat Anti-CDYL Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-CDYL Antibody - Protein Information**Name** CDYL {ECO:0000303|PubMed:10192397, ECO:0000312|HGNC:HGNC:1811}**Function**

[Isoform 2]: Chromatin reader protein that recognizes and binds histone H3 trimethylated at 'Lys-9', dimethylated at 'Lys-27' and trimethylated at 'Lys-27' (H3K9me3, H3K27me2 and H3K27me3, respectively) (PubMed:19808672, PubMed:28402439). Part of multimeric repressive chromatin complexes, where it is required for transmission and restoration of repressive histone marks, thereby preserving the

epigenetic landscape (PubMed:28402439). Required for chromatin targeting and maximal enzymatic activity of Polycomb repressive complex 2 (PRC2); acts as a positive regulator of PRC2 activity by bridging the pre-existing histone H3K27me3 and newly recruited PRC2 on neighboring nucleosomes (PubMed:22009739). Acts as a corepressor for REST by facilitating histone-lysine N-methyltransferase EHMT2 recruitment and H3K9 dimethylation at REST target genes for repression (PubMed:19061646). Involved in X chromosome inactivation in females: recruited to Xist RNA-coated X chromosome and facilitates propagation of H3K9me2 by anchoring EHMT2 (By similarity). Promotes EZH2 accumulation and H3K27me3 methylation at DNA double strand breaks (DSBs), thereby facilitating transcriptional repression at sites of DNA damage and homology-directed repair of DSBs (PubMed:29177481). Required for neuronal migration during brain development by repressing expression of RHOA (By similarity). By repressing the expression of SCN8A, contributes to the inhibition of intrinsic neuronal excitability and epileptogenesis (By similarity). In addition to acting as a chromatin reader, acts as a hydro-lyase (PubMed:28803779). Shows crotonyl-CoA hydratase activity by mediating the conversion of crotonyl-CoA ((2E)-butenoyl-CoA) to beta-hydroxybutyryl-CoA (3- hydroxybutanoyl-CoA), thereby acting as a negative regulator of histone crotonylation (PubMed:28803779). Histone crotonylation is required during spermatogenesis; down-regulation of histone crotonylation by CDYL regulates the reactivation of sex chromosome-linked genes in round spermatids and histone replacement in elongating spermatids (By similarity). By regulating histone crotonylation and trimethylation of H3K27, may be involved in stress-induced depression-like behaviors, possibly by regulating VGF expression (By similarity).

Cellular Location

[Isoform 2]: Nucleus. Chromosome. Note=Recognizes and binds histone H3 trimethylated at 'Lys-9', dimethylated at 'Lys-27' and trimethylated at 'Lys-27' (H3K9me3, H3K27me2 and H3K27me3, respectively) on chromatin (PubMed:19808672). Multimerization is required for chromatin-binding (PubMed:19808672). Recruited to sites of DNA double strand breaks in a PARP1-dependent fashion (PubMed:29177481)

Tissue Location

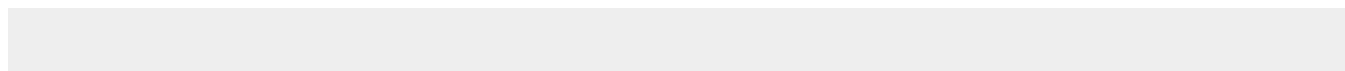
Expressed in the hippocampus with reduced expression in epileptic tissue compared to normal adjacent tissue (at protein level) (PubMed:28842554). Ubiquitous (PubMed:19808672) Expressed at moderate levels in all tissues examined (PubMed:19808672) Isoform 2: Most abundantly expressed isoform (PubMed:19808672)

Goat Anti-CDYL Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Goat Anti-CDYL Antibody - Images





AF1225a staining (1 μ g/ml) of Human Testes lysate (RIPA buffer, 35 μ g total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

Goat Anti-CDYL Antibody - Background

Chromodomain Y is a primate-specific Y-chromosomal gene family expressed exclusively in the testis and implicated in infertility. Although the Y-linked genes are testis-specific, this autosomal gene is ubiquitously expressed. The Y-linked genes arose by retrotransposition of an mRNA from this gene, followed by amplification of the retroposed gene. Proteins encoded by this gene superfamily possess a chromodomain, a motif implicated in chromatin binding and gene suppression, and a catalytic domain believed to be involved in histone acetylation. Multiple proteins are encoded by transcript variants of this gene.

Goat Anti-CDYL Antibody - References

Multimerization and H3K9me3 binding are required for CDYL1b heterochromatin association. Franz H, et al. J Biol Chem, 2009 Dec 11. PMID 19808672.

The variant rs1867277 in FOXE1 gene confers thyroid cancer susceptibility through the recruitment of USF1/USF2 transcription factors. Landa I, et al. PLoS Genet, 2009 Sep. PMID 19730683.

CDYL bridges REST and histone methyltransferases for gene repression and suppression of cellular transformation. Mulligan P, et al. Mol Cell, 2008 Dec 5. PMID 19061646.

Phosphoproteome analysis of the human mitotic spindle. Nousiainen M, et al. Proc Natl Acad Sci U S A, 2006 Apr 4. PMID 16565220.

Binding of proteins to the PDZ domain regulates proteolytic activity of HtrA1 serine protease.

Murwantoko, et al. Biochem J, 2004 Aug 1. PMID 15101818.