

Product datasheet for **TL515883**

Ep300 Mouse shRNA Plasmid (Locus ID 328572)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Ep300 Mouse shRNA Plasmid (Locus ID 328572)
Locus ID:	328572
Synonyms:	A430090G16; A730011L11; KAT3B; p300; p300 HAT
Vector:	pGFP-C-shLenti (TR30023)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Lentiviral plasmids
Components:	Ep300 - Mouse, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 328572). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.
RefSeq:	NM_177821 , NM_177821.1 , NM_177821.2 , NM_177821.3 , NM_177821.4 , NM_177821.5 , NM_177821.6 , BC126890 , BC144976 , BC150681 , BM070050 , BM947476
UniProt ID:	B2RWS6



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Summary:

Functions as histone acetyltransferase and regulates transcription via chromatin remodeling (By similarity). Acetylates all four core histones in nucleosomes (By similarity). Histone acetylation gives an epigenetic tag for transcriptional activation (By similarity). Mediates cAMP-gene regulation by binding specifically to phosphorylated CREB protein (PubMed:18486321, PubMed:24216764). Mediates acetylation of histone H3 at 'Lys-122' (H3K122ac), a modification that localizes at the surface of the histone octamer and stimulates transcription, possibly by promoting nucleosome instability (By similarity). Mediates acetylation of histone H3 at 'Lys-27' (H3K27ac) (By similarity). Also functions as acetyltransferase for non-histone targets, such as ALX1, HDAC1, PRMT1 or SIRT2 (PubMed:28883095). Acetylates 'Lys-131' of ALX1 and acts as its coactivator (By similarity). Acetylates SIRT2 and is proposed to indirectly increase the transcriptional activity of TP53 through acetylation and subsequent attenuation of SIRT2 deacetylase function (By similarity). Acetylates HDAC1 leading to its inactivation and modulation of transcription (By similarity). Acts as a TFAP2A-mediated transcriptional coactivator in presence of CITED2 (By similarity). Plays a role as a coactivator of NEUROD1-dependent transcription of the secretin and p21 genes and controls terminal differentiation of cells in the intestinal epithelium (By similarity). Promotes cardiac myocyte enlargement (By similarity). Can also mediate transcriptional repression (By similarity). Acetylates FOXO1 and enhances its transcriptional activity (By similarity). Acetylates BCL6 which disrupts its ability to recruit histone deacetylases and hinders its transcriptional repressor activity (By similarity). Participates in CLOCK or NPAS2-regulated rhythmic gene transcription; exhibits a circadian association with CLOCK or NPAS2, correlating with increase in PER1/2 mRNA and histone H3 acetylation on the PER1/2 promoter (By similarity). Acetylates MTA1 at 'Lys-626' which is essential for its transcriptional coactivator activity (PubMed:14645221, PubMed:9512516). Acetylates XBP1 isoform 2; acetylation increases protein stability of XBP1 isoform 2 and enhances its transcriptional activity (PubMed:20955178). Acetylates PCNA; acetylation promotes removal of chromatin-bound PCNA and its degradation during nucleotide excision repair (NER) (By similarity). Acetylates MEF2D (By similarity). Acetylates and stabilizes ZBTB7B protein by antagonizing ubiquitin conjugation and degradation, this mechanism may be involved in CD4/CD8 lineage differentiation (PubMed:20810990). In addition to protein acetyltransferase, can use different acyl-CoA substrates, such as (2E)-butenoyl-CoA (crotonyl-CoA), butanoyl-CoA (butyryl-CoA) or propanoyl-CoA (propionyl-CoA), and is able to mediate protein crotonylation, butyrylation or propionylation, respectively (PubMed:27105113). Acts as a histone crotonyltransferase; crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors. Histone crotonyltransferase activity is dependent on the concentration of (2E)-butenoyl-CoA (crotonyl-CoA) substrate and such activity is weak when (E)-but-2-enoyl-CoA (crotonyl-CoA) concentration is low (By similarity). Also acts as a histone butyryltransferase; butyrylation marks active promoters (PubMed:27105113). Functions as a transcriptional coactivator for SMAD4 in the TGF-beta signaling pathway (By similarity). Acetylates PCK1 and promotes PCK1 anaplerotic activity (By similarity).[UniProtKB/Swiss-Prot Function]

shRNA Design:

These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our [custom shRNA service](#).

Performance Guaranteed:

OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).