

Product datasheet for **MC225306**

Ep300 (NM_177821) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Ep300 (NM_177821) Mouse Untagged Clone
Tag: Tag Free
Symbol: Ep300
Synonyms: A430090G16; A730011L11; KAT3B; p300; p300 HAT
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC225306 representing NM_177821
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

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 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-Mlul
- ACCN:** NM_177821
- Insert Size:** 7239 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_177821.6](#), [NP_808489.4](#)

RefSeq Size: 8749 bp

RefSeq ORF: 7239 bp

Locus ID: 328572

UniProt ID: [B2RWS6](#)

Cytogenetics: 15 E1

Gene 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]