Recombinant p300 protein, catalytic domain

Catalog No: 31205
Expressed In: Baculovirus

Quantity: 5 µg
Concentration: 0.1 µg/µl
Source: Human

Buffer Contents: 5 µg of Recombinant p300, catalytic domain. 20 mM Tris-HCl pH 7.3, 20% glycerol, 0.2 mM EDTA, 300 mM KCl, 1 mM DTT containing 0.5 mM PMSF.

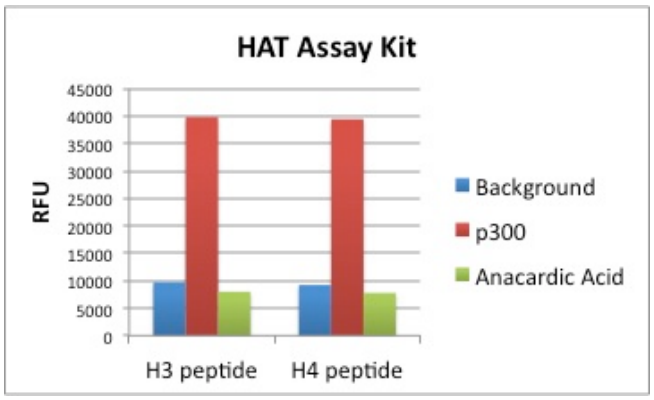
Background: E1A binding protein p300 (EP300) or **p300** regulates cellular growth and differentiation and is also important in preventing tumor growth. It binds to transcription factors and functions as a coactivator of transcription. The p300 domain structure that facilitates interaction with transcription factors includes the bromodomain, the nuclear receptor interaction domain (RID), the CREB and MYB interaction domain (KIX), the cysteine/histidine regions (TAZ1and TAZ2) and the interferon response binding domain (IBiD). Its interaction with adenovirus E1A protein is thought regulate the transforming capacity of E1A. p300 is a transcriptional coactivator with histone acetyl transferase (HAT) activity. It can acetylate all four core histones and regulates transcription via chromatin remodeling. p300 also functions as an acetyltransferase for nonhistone targets. Specifically, p300 acetylates 'Lys131' of ALX1 and acts as its coactivator in the presence of CREBBP. p300 is also thought to indirectly increase the transcriptional activity of p53 through acetylation of SIRT2 and subsequent attenuation of its deacetylase function. Additionally, HDAC1 acetylation by p300 leads to HDAC1 inactivation. p300 also acts as a TFAP2A-mediated transcriptional coactivator in the presence of CITED2 and as a coactivator of NEUROD1-dependent transcription of secretin and p21. Additionally, p300 binds to phosphorylated CREB and mediates cAMP gene regulation. It also regulates terminal differentiation of intestinal epithelial cells. In the case of HIV-1 infection, p300 is recruited by the viral protein TAT and regulates TAT's transactivating activity, and may aid induction of chromatin remodeling of proviral genes.

Protein Details: Recombinant p300 catalytic domain is expressed in a baculovirus system and purified by affinity chromatography. Protein is supplied at 0.1 mg/ml. The p300 corresponds to amino acids 965-1810 from the GenBank Accession Number U01877.

Application Notes: This protein has been tested for activity in the fluorescent HAT Assay Kit, Catalog No. 56100. 50 ng of p300 were assayed per well using 50 µM H3 and H4 peptides, 50 µM Acetyl-CoA, and 15 µM Anacardic Acid. Assays were incubated for 30 minutes at room temperature and read on a fluorescent plate reader (ex 360-390 nm, em 450-470 nm). The specific activity was >500 pmol/min/µg.

Storage and Guarantee: Lyophilized proteins can be stored at -20°C or -80°C, preferably desiccated. Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



Recombinant p300 protein activity assay.
p300 activity using the fluorescent HAT assay kit (Catalog No. 56100). p300 was tested on both histone H3 (residues 5-23 of human H3) and H4 peptide (residues 1 -19 of human H4) substrates. p300 activity was inhibited by anacardic acid.