Recombinant p300 protein, catalytic domain

Catalog No: 81093, 81893
Lot No: 17818002
Expressed In: Baculovirus

Quantity: 20, 1000 µg
Concentration: 0.23 µg/µl
Source: Human

Buffer Contents: Recombinant p300 protein, catalytic domain is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100 and 0.5 mM TCEP.

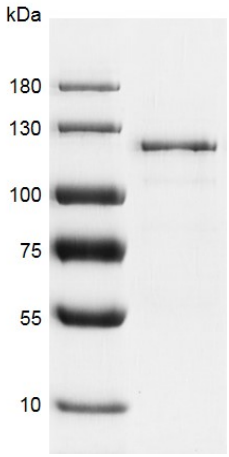
Background: E1A binding protein p300 (EP300) or p300, also known as KAT3B or RSTS2, regulates cellular growth and differentiation and is also important in preventing tumor growth. It binds to transcription factors and functions as a coactivator of transcription. The p300 domain structure that facilitates 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 protein, catalytic domain that includes amino acids 965 - 1810 of human p300 protein (accession number NP_001420.2) was expressed in baculovirus expression system and contains an N-terminal FLAG tag. The molecular weight of the protein is 98.7 kDa.

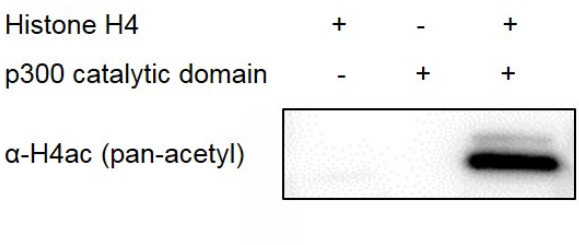
Application Notes: Recombinant p300 protein, catalytic domain is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

Assay Conditions: 0.5 µg Histone H4 (Cat. No. 31493) was incubated with 0 µg (-), 0.5 µg (+) p300 protein, catalytic domain in 20 µl reaction system containing 50 mM Tris-HCl pH 8.0, 0.1 mM EDTA, 50 ng/µl BSA, 1 mM TCEP and 20 µM Acetyl-CoA for 2 hours at room temperature. Half of each reaction was run on a 13% SDS-PAGE gel, and products were detected by Western blot. H4ac (pan-acetyl) antibody (Cat. No. 39244) was used to recognize acetylated histone H4.

Storage and Guarantee: 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 for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.



Recombinant p300 protein, catalytic domain, protein gel
8% SDS-PAGE Coomassie staining
MW: 98.7 kDa
Purity: >90%



Western blot for recombinant p300 protein, catalytic domain activity assay
0.5 µg Histone H4 was incubated with 0 µg (-), 0.5 µg (+) p300 protein, catalytic domain in 20 µl reaction system for 2 hours at room temperature. Half of each reaction was run on a 13% SDS-PAGE gel, and products were detected by Western blot. H4ac (pan-acetyl) antibody was used to recognize acetylated histone H4.

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