

Disc - Recombinant p300 protein

Catalog No: 31124

Expressed In: Baculovirus

Quantity: 4 µg

Concentration: 0.4 µg/µl

Source: Human

Buffer Contents: 4 µg of Recombinant p300 protein in Dilution Buffer AM1 (20 mM Tris-Cl (pH 8), 20% glycerol, 100 mM KCl, 1 mM DTT and 0.2 mM EDTA).

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 (TAZ1 and TAZ2) and the interferon response binding domain (IBiD). Its interaction with adenovirus E1A protein is thought to 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: The wild-type p300 protein consists of full-length (2414 amino acid residues) p300 (accession number NM_001429) and contains an N-terminal FLAG-Tag. The p300 protein was expressed in a baculovirus system and purified by an affinity column in combination with FPLC chromatography. The purified recombinant protein is greater than 95% homogeneous and contains no detectable protease, DNase and RNase activity.

Application Notes: Recombinant p300 is suitable for protein-protein interaction, *in vitro* transcription, *in vitro* acetylation and cell growth assays. 1-5 ng is sufficient for gelshift assays in a 20 µl volume, 50-100 ng is sufficient for reconstituted transcription assays and 100-200 ng is sufficient for protein-protein interaction or acetylation assays. The molecular weight of the protein is 265 kDa.

NOTE: The presence of Poly [d(I-C)] in buffers may affect protein functionality and should be avoided.

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 guaranteed for 6 months from date of receipt.