

**Biotinylated P300-S89 Phospho Peptide**  
**Synthetic Peptide**  
**Catalog # SP2042b****Specification**

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**Biotinylated P300-S89 Phospho Peptide - Product Information**

Primary Accession	<a href="#">Q09472</a>
Other Accession	<a href="#">B2RWS6</a>
Sequence	<b>Biotin-SELLRSG(pS)SPNLNMG</b>

**Biotinylated P300-S89 Phospho Peptide - Additional Information****Gene ID** 2033**Other Names**

Histone acetyltransferase p300, p300 HAT, E1A-associated protein p300, EP300, P300

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**Biotinylated P300-S89 Phospho Peptide - Protein Information****Name** EP300 {ECO:0000303|PubMed:15706485, ECO:0000312|HGNC:HGNC:3373}**Function**

Functions as a histone acetyltransferase and regulates transcription via chromatin remodeling (PubMed:<a href="http://www.uniprot.org/citations/23415232" target="\_blank">23415232</a>, PubMed:<a href="http://www.uniprot.org/citations/23934153" target="\_blank">23934153</a>, PubMed:<a href="http://www.uniprot.org/citations/8945521" target="\_blank">8945521</a>). Acetylates all four core histones in nucleosomes (PubMed:<a href="http://www.uniprot.org/citations/23415232" target="\_blank">23415232</a>, PubMed:<a href="http://www.uniprot.org/citations/23934153" target="\_blank">23934153</a>, PubMed:<a href="http://www.uniprot.org/citations/8945521" target="\_blank">8945521</a>). Histone acetylation gives an epigenetic tag for transcriptional activation (PubMed:<a href="http://www.uniprot.org/citations/23415232" target="\_blank">23415232</a>, PubMed:<a href="http://www.uniprot.org/citations/23934153" target="\_blank">23934153</a>, PubMed:<a href="http://www.uniprot.org/citations/8945521" target="\_blank">8945521</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/23415232" target="\_blank">23415232</a>). Mediates acetylation of histone H3 at 'Lys-18' and 'Lys-27' (H3K18ac and H3K27ac, respectively)

(PubMed:<a href="http://www.uniprot.org/citations/21131905" target="\_blank">21131905</a>, PubMed:<a href="http://www.uniprot.org/citations/23911289" target="\_blank">23911289</a>). Also able to acetylate histone lysine residues that are already monomethylated on the same side chain to form N6-acetyl-N6-methyllysine (Kacme), an epigenetic mark of active chromatin associated with increased transcriptional initiation (PubMed:<a href="http://www.uniprot.org/citations/37731000" target="\_blank">37731000</a>). Catalyzes formation of histone H4 acetyl-methylated at 'Lys-5' and 'Lys-12' (H4K5acme and H4K12acme, respectively) (PubMed:<a href="http://www.uniprot.org/citations/37731000" target="\_blank">37731000</a>). Also functions as acetyltransferase for non-histone targets, such as ALX1, HDAC1, PRMT1, SIRT2 or STAT3 (PubMed:<a href="http://www.uniprot.org/citations/12929931" target="\_blank">12929931</a>, PubMed:<a href="http://www.uniprot.org/citations/16285960" target="\_blank">16285960</a>, PubMed:<a href="http://www.uniprot.org/citations/15653507" target="\_blank">15653507</a>, PubMed:<a href="http://www.uniprot.org/citations/16762839" target="\_blank">16762839</a>, PubMed:<a href="http://www.uniprot.org/citations/18722353" target="\_blank">18722353</a>, PubMed:<a href="http://www.uniprot.org/citations/18782771" target="\_blank">18782771</a>). Acetylates 'Lys-131' of ALX1 and acts as its coactivator (PubMed:<a href="http://www.uniprot.org/citations/12929931" target="\_blank">12929931</a>). Acetylates SIRT2 and is proposed to indirectly increase the transcriptional activity of p53/TP53 through acetylation and subsequent attenuation of SIRT2 deacetylase function (PubMed:<a href="http://www.uniprot.org/citations/18722353" target="\_blank">18722353</a>). Following DNA damage, forms a stress-responsive p53/TP53 coactivator complex with JMY which mediates p53/TP53 acetylation, thereby increasing p53/TP53-dependent transcription and apoptosis (PubMed:<a href="http://www.uniprot.org/citations/11511361" target="\_blank">11511361</a>, PubMed:<a href="http://www.uniprot.org/citations/15448695" target="\_blank">15448695</a>). Promotes chromatin acetylation in heat shock responsive HSP genes during the heat shock response (HSR), thereby stimulating HSR transcription (PubMed:<a href="http://www.uniprot.org/citations/18451878" target="\_blank">18451878</a>). Acetylates HDAC1 leading to its inactivation and modulation of transcription (PubMed:<a href="http://www.uniprot.org/citations/16762839" target="\_blank">16762839</a>). Acetylates 'Lys-247' of EGR2 (By similarity). Acts as a TFAP2A-mediated transcriptional coactivator in presence of CITED2 (PubMed:<a href="http://www.uniprot.org/citations/12586840" target="\_blank">12586840</a>). 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. Promotes cardiac myocyte enlargement (PubMed:<a href="http://www.uniprot.org/citations/14752053" target="\_blank">14752053</a>). Can also mediate transcriptional repression. Acetylates FOXO1 and enhances its transcriptional activity (PubMed:<a href="http://www.uniprot.org/citations/15890677" target="\_blank">15890677</a>). Acetylates STAT3 at different sites, promoting both STAT3 dimerization and activation and recruitment to chromatin (PubMed:<a href="http://www.uniprot.org/citations/16285960" target="\_blank">16285960</a>, PubMed:<a href="http://www.uniprot.org/citations/15653507" target="\_blank">15653507</a>, PubMed:<a href="http://www.uniprot.org/citations/18782771" target="\_blank">18782771</a>). Acetylates BCL6 which disrupts its ability to recruit histone deacetylases and hinders its transcriptional repressor activity (PubMed:<a href="http://www.uniprot.org/citations/12402037" target="\_blank">12402037</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/14645221" target="\_blank">14645221</a>). Acetylates MTA1 at 'Lys-626' which is essential for its transcriptional coactivator activity (PubMed:<a href="http://www.uniprot.org/citations/16617102" target="\_blank">16617102</a>). Acetylates XBP1 isoform 2; acetylation increases protein stability of XBP1 isoform 2 and enhances its transcriptional activity (PubMed:<a href="http://www.uniprot.org/citations/20955178" target="\_blank">20955178</a>). Acetylates PCNA; acetylation promotes removal of chromatin-bound PCNA and its degradation during nucleotide excision repair (NER) (PubMed:<a href="http://www.uniprot.org/citations/24939902" target="\_blank">24939902</a>). Acetylates MEF2D (PubMed:<a href="http://www.uniprot.org/citations/21030595" target="\_blank">21030595</a>). Acetylates

and stabilizes ZBTB7B protein by antagonizing ubiquitin conjugation and degradation, this mechanism may be involved in CD4/CD8 lineage differentiation (PubMed:<a href="http://www.uniprot.org/citations/20810990" target="\_blank">20810990</a>). Acetylates GABPB1, impairing GABPB1 heterotetramerization and activity (By similarity). Acetylates PCK1 and promotes PCK1 anaplerotic activity (PubMed:<a href="http://www.uniprot.org/citations/30193097" target="\_blank">30193097</a>). Acetylates RXRA and RXRG (PubMed:<a href="http://www.uniprot.org/citations/17761950" target="\_blank">17761950</a>). Acetylates isoform M2 of PKM (PKM2), promoting its homodimerization and conversion into a protein kinase (PubMed:<a href="http://www.uniprot.org/citations/24120661" target="\_blank">24120661</a>). Acetylates RPTOR in response to leucine, leading to activation of the mTORC1 complex (PubMed:<a href="http://www.uniprot.org/citations/30197302" target="\_blank">30197302</a>, PubMed:<a href="http://www.uniprot.org/citations/32561715" target="\_blank">32561715</a>). Mediates cAMP-gene regulation by binding specifically to phosphorylated CREBBP (PubMed:<a href="http://www.uniprot.org/citations/8917528" target="\_blank">8917528</a>). In addition to protein acetyltransferase, can use different acyl-CoA substrates, such as (2E)-butenoyl-CoA (crotonyl-CoA), butanoyl-CoA (butyryl-CoA), 2-hydroxyisobutanoyl-CoA (2-hydroxyisobutyryl-CoA), lactoyl-CoA or propanoyl-CoA (propionyl-CoA), and is able to mediate protein crotonylation, butyrylation, 2-hydroxyisobutyrylation, lactylation or propionylation, respectively (PubMed:<a href="http://www.uniprot.org/citations/17267393" target="\_blank">17267393</a>, PubMed:<a href="http://www.uniprot.org/citations/25818647" target="\_blank">25818647</a>, PubMed:<a href="http://www.uniprot.org/citations/29775581" target="\_blank">29775581</a>, PubMed:<a href="http://www.uniprot.org/citations/31645732" target="\_blank">31645732</a>). Acts as a histone crotonyltransferase; crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors (PubMed:<a href="http://www.uniprot.org/citations/25818647" target="\_blank">25818647</a>). Histone crotonyltransferase activity is dependent on the concentration of (2E)-butenoyl-CoA (crotonyl-CoA) substrate and such activity is weak when (2E)-butenoyl-CoA (crotonyl-CoA) concentration is low (PubMed:<a href="http://www.uniprot.org/citations/25818647" target="\_blank">25818647</a>). Also acts as a histone butyryltransferase; butyrylation marks active promoters (PubMed:<a href="http://www.uniprot.org/citations/17267393" target="\_blank">17267393</a>). Catalyzes histone lactylation in macrophages by using lactoyl-CoA directly derived from endogenous or exogenous lactate, leading to stimulates gene transcription (PubMed:<a href="http://www.uniprot.org/citations/31645732" target="\_blank">31645732</a>). Acts as a protein-lysine 2-hydroxyisobutyryltransferase; regulates glycolysis by mediating 2-hydroxyisobutyrylation of glycolytic enzymes (PubMed:<a href="http://www.uniprot.org/citations/29775581" target="\_blank">29775581</a>). Functions as a transcriptional coactivator for SMAD4 in the TGF-beta signaling pathway (PubMed:<a href="http://www.uniprot.org/citations/25514493" target="\_blank">25514493</a>).

### Cellular Location

Cytoplasm. Nucleus. Chromosome Note=Localizes to active chromatin: Colocalizes with histone H3 acetylated and/or crotonylated at 'Lys-18' (H3K18ac and H3K18cr, respectively) (PubMed:25818647). In the presence of ALX1 relocates from the cytoplasm to the nucleus. Colocalizes with ROCK2 in the nucleus (PubMed:12929931). Localizes to sites of DNA damage (PubMed:25593309).

### Biotinylated P300-S89 Phospho Peptide - Images