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PCAF Antibody
Rabbit Polyclonal Antibody
Catalog # ABV11226

Specification

PCAF Antibody - Product Information

Application	**WB**
Primary Accession	Q92831
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**93013**

PCAF Antibody - Additional Information

Gene ID 8850

Positive Control	**Western Blot: Recombinant protein**
Application & Usage	**Western blot: 1-4 µg/ml.**

Other Names
KAT2B; PCAF; Histone acetyltransferase KAT2B; Histone acetyltransferase PCAF; Lysine acetyltransferase 2B; P300/CBP-associated factor.

Target/Specificity
PCAF

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) of antibody in PBS pH 7.2 containing 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
PCAF Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PCAF Antibody - Protein Information

Name KAT2B {ECO:0000303|PubMed:27796307, ECO:0000312|HGNC:HGNC:8638}

Function
Functions as a histone acetyltransferase (HAT) to promote transcriptional activation (PubMed:8945521). Has significant histone acetyltransferase activity with core histones (H3 and H4), and also with nucleosome core particles (PubMed:8945521). Has a a strong preference for acetylation of H3 at 'Lys-9' (H3K9ac) (PubMed:21131905). Also acetylates non-histone proteins, such as ACLY, MAPRE1/EB1, PLK4, RRP9/U3-55K and TBX5 (PubMed:9707565, PubMed:10675335, PubMed:23001180, PubMed:27796307, PubMed:23932781, PubMed:26867678, PubMed:29174768). Inhibits cell-cycle progression and counteracts the mitogenic activity of the adenoviral oncoprotein E1A (PubMed:8684459). Acts as a circadian transcriptional coactivator which enhances the activity of the circadian transcriptional activators: NPAS2-BMAL1 and CLOCK-BMAL1 heterodimers (PubMed:14645221). Involved in heart and limb development by mediating acetylation of TBX5, acetylation regulating nucleocytoplasmic shuttling of TBX5 (PubMed:29174768). Acts as a negative regulator of centrosome amplification by mediating acetylation of PLK4 (PubMed:27796307). Acetylates RRP9/U3-55K, a core subunit of the U3 snoRNP complex, impairing pre-rRNA processing (PubMed:26867678). Acetylates MAPRE1/EB1, promoting dynamic kinetochore-microtubule interactions in early mitosis (PubMed:23001180). Also acetylates spermidine (PubMed:27389534).

Cellular Location
Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm Note=Mainly localizes to the nucleus. Also localizes to centrosomes in late G1 and around the G1/S transition, coinciding with the onset of centriole formation. Subcellular location may vary depending upon cell differentiation state. Cytoplasmic at the very stages of keratinocyte differentiation, becomes nuclear at later differentiation stages Cytoplasmic in basal epithelial cells (undifferentiated cells) and nuclear in parabasal cells (differentiated cells) (PubMed:20940255) Localizes to sites of DNA damage (PubMed:25593309)

Tissue Location
Ubiquitously expressed but most abundant in heart and skeletal muscle. Also expressed in the skin, in keratinocytes (at protein level) (PubMed:20940255).

PCAF Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot

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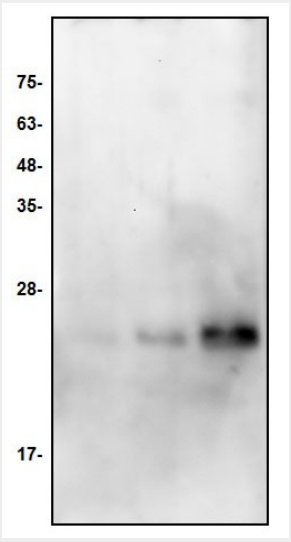
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PCAF Antibody - Images



Western blot of PCAF antibody. Lane 1: rhPCAF 10 ng. Lane 2: rhPCAF 50 ng; Lane 3: rhPCAF 100 ng

PCAF Antibody - Background

The acetylation of histone lysine residues plays a crucial role in the epigenetic regulation of gene transcription. A bromodomain is a protein domain that recognizes acetylated lysine residues such as those on the N-terminal tails of histones. This recognition is often a prerequisite for protein-histone association and chromatin remodeling. These domains function in the linking of protein complexes to acetylated nucleosomes, thereby controlling chromatin structure and gene expression. Thus, bromodomains serve as “readers” of histone acetylation marks regulating the transcription of target promoters. P300/CBP-associated factor (PCAF) is a transcriptional coactivator that works both as a histone lysine acetyltransferase, through its HAT domain, and as an acetyl-lysine reader through its conserved bromodomain located directly C-terminal to the HAT domain. The PCAF bromodomain binds acetylated histone H3 and H4 as well as non-histone targets. Bromodomain binding is dictated by the position of the acetylated lysine as well as interactions with specific residues flanking the acetyl-lysine. PCAF also specifically binds the HIV viral protein Tat on acetylated K50 to regulate its transactivating activity and help induce chromatin remodeling of proviral genes, thereby promoting transcription of viral proteins.