

# CIB1 Antibody

Purified Mouse Monoclonal Antibody  
Catalog # AO1068a

## Product Information

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<b>Application</b>	WB, IHC, E
<b>Primary Accession</b>	<a href="#">Q99828</a>
<b>Reactivity</b>	Human
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Clone Names</b>	5A1F5E12; 5A1H7E12
<b>Calculated MW</b>	21703
<b>Description</b>	CIB1(also designated calcium and integrin binding 1 or calmyrin),with 191-amino acid protein(about 21kDa), belongs to the calcium-binding protein family.CIB1 is known to interact with DNA-dependent protein kinase and may play a role in kinase-phosphatase regulation of DNA end joining.CIB1 is an EF-hand-containing protein that binds multiple effector proteins, including the platelet alpha(IIb)beta(3) integrin and several serine/threonine kinases and potentially modulates their function.CIB1 regulates platelet aggregation in hemostasis through a specific interaction with the alpha(IIb) cytoplasmic domain of platelet integrin alpha(IIb)beta(3). CIB1 is also ubiquitously expressed activating and inhibiting protein ligand of the InsP3R.
<b>Immunogen</b>	Purified recombinant fragment of CIB1 expressed in E. Coli.
<b>Formulation</b>	Ascitic fluid containing 0.03% sodium azide.

## Additional Information

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<b>Gene ID</b>	10519
<b>Other Names</b>	Calcium and integrin-binding protein 1, CIB, Calcium- and integrin-binding protein, CIBP, Calmyrin, DNA-PKcs-interacting protein, Kinase-interacting protein, KIP, SNK-interacting protein 2-28, SIP2-28, CIB1, CIB, KIP, PRKDCIP
<b>Dilution</b>	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	CIB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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CIB1

<b>Name</b>	
<b>Synonyms</b>	CIB, KIP, PRKDCIP
<b>Function</b>	Calcium-binding protein that plays a role in the regulation of numerous cellular processes, such as cell differentiation, cell division, cell proliferation, cell migration, thrombosis, angiogenesis, cardiac hypertrophy and apoptosis. Involved in bone marrow megakaryocyte differentiation by negatively regulating thrombopoietin- mediated signaling pathway. Participates in the endomitotic cell cycle of megakaryocyte, a form of mitosis in which both karyokinesis and cytokinesis are interrupted. Plays a role in integrin signaling by negatively regulating alpha-IIb/beta3 activation in thrombin-stimulated megakaryocytes preventing platelet aggregation. Up-regulates PTK2/FAK1 activity, and is also needed for the recruitment of PTK2/FAK1 to focal adhesions; it thus appears to play an important role in focal adhesion formation. Positively regulates cell migration on fibronectin in a CDC42-dependent manner, the effect being negatively regulated by PAK1. Functions as a negative regulator of stress activated MAP kinase (MAPK) signaling pathways. Down-regulates inositol 1,4,5-trisphosphate receptor-dependent calcium signaling. Involved in sphingosine kinase SPHK1 translocation to the plasma membrane in a N-myristoylation- dependent manner preventing TNF-induced apoptosis. Regulates serine/threonine-protein kinase PLK3 activity for proper completion of cell division progression. Plays a role in microtubule (MT) dynamics during neuronal development; disrupts the MT depolymerization activity of STMN2 attenuating NGF-induced neurite outgrowth and the MT reorganization at the edge of lamellipodia. Promotes cardiomyocyte hypertrophy via activation of the calcineurin/NFAT signaling pathway. Stimulates calcineurin PPP3R1 activity by mediating its anchoring to the sarcolemma. In ischemia-induced (pathological or adaptive) angiogenesis, stimulates endothelial cell proliferation, migration and microvessel formation by activating the PAK1 and ERK1/ERK2 signaling pathway. Also promotes cancer cell survival and proliferation. May regulate cell cycle and differentiation of spermatogenic germ cells, and/or differentiation of supporting Sertoli cells. Forms a complex with TMC6/EVER1 and TMC8/EVER2 in lymphocytes and keratynocytes where CIB1 stabilizes TMC6 and TMC8 levels and reciprocally (PubMed: <a href="#">30068544</a> , PubMed: <a href="#">32917726</a> ).
<b>Cellular Location</b>	Membrane; Lipid-anchor. Cell membrane, sarcolemma. Cell membrane. Apical cell membrane. Cell projection, ruffle membrane. Cell projection, filopodium tip. Cell projection, growth cone. Cell projection, lamellipodium. Cytoplasm. Cytoplasm, cytoskeleton. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, perinuclear region. Nucleus. Cell projection, neuron projection. Perikaryon. Note=Colocalized with PPP3R1 at the cell membrane of cardiomyocytes in the hypertrophic heart (By similarity) Colocalized with NBR1 to the perinuclear region. Colocalizes with TAS1R2 in apical regions of taste receptor cells. Colocalized with RAC3 in the perinuclear area and at the cell periphery. Colocalized with PAK1 within membrane ruffles during cell spreading upon readhesion to fibronectin. Redirected to the cytoskeleton upon platelet aggregation. Translocates from the cytosol to the plasma membrane in a calcium-dependent manner. Colocalized with PLK3 at centrosomes in ductal breast carcinoma cells.
<b>Tissue Location</b>	Ubiquitously expressed. Expressed in the epidermis, hair follicles and keratinocytes (PubMed:30068544). Detected in platelets and in cell lines of megakaryocytic and erythrocytic lineages. Both isoform 1 and isoform 2 are detected in various cancer cell lines, with isoform 2 being the predominant form (at protein level).

## References

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1. Holly R. Gentry, Alex U. Singer, Laurie Betts. *J. Biol. Chem.*, Mar 2005; 280: 8407 - 8415.
2. Carl White, Jun Yang, Mervyn J. Monteiro. *J. Biol. Chem.*, Jul 2006; 281: 20825 – 20833.

## Images

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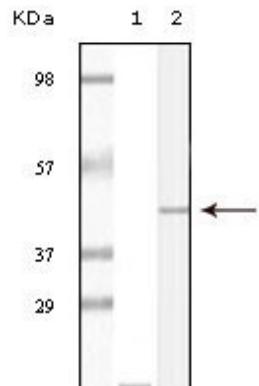


Figure 1: Western blot analysis using CIB1 mouse mAb against truncated CIB1 recombinant protein (1) and A431 cell lysate (2).

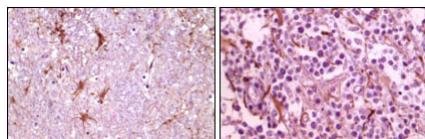


Figure 2: Immunohistochemical analysis of paraffin-embedded human thalamus (left) and glioma (right) tissue, showing membrane localization using CIB1 mouse mAb with DAB staining.

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