

ITGB1BP1 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP17562c**Specification**

ITGB1BP1 Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [O14713](#)**ITGB1BP1 Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 9270**Other Names**

Integrin beta-1-binding protein 1, Integrin cytoplasmic domain-associated protein 1, ICAP-1, ITGB1BP1, ICAP1

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.

ITGB1BP1 Antibody (Center) Blocking Peptide - Protein Information**Name** ITGB1BP1**Synonyms** ICAP1**Function**

Key regulator of the integrin-mediated cell-matrix interaction signaling by binding to the ITGB1 cytoplasmic tail and preventing the activation of integrin alpha-5/beta-1 (heterodimer of ITGA5 and ITGB1) by talin or FERMT1. Plays a role in cell proliferation, differentiation, spreading, adhesion and migration in the context of mineralization and bone development and angiogenesis. Stimulates cellular proliferation in a fibronectin-dependent manner. Involved in the regulation of beta-1 integrin-containing focal adhesion (FA) site dynamics by controlling its assembly rate during cell adhesion; inhibits beta-1 integrin clustering within FA by directly competing with talin TLN1, and hence stimulates osteoblast spreading and migration in a fibronectin- and/or collagen-dependent manner. Acts as a guanine nucleotide dissociation inhibitor (GDI) by regulating Rho family GTPases during integrin-mediated cell matrix adhesion; reduces the level of active GTP-bound form of both CDC42 and RAC1 GTPases upon cell adhesion to fibronectin. Stimulates the release of active CDC42 from the membranes to maintain it in an inactive cytoplasmic pool. Participates in the translocation of the Rho-associated protein kinase ROCK1 to membrane ruffles at cell leading edges of the cell membrane, leading to an increase of myoblast cell migration on laminin. Plays a role in bone mineralization at a late stage of osteoblast

differentiation; modulates the dynamic formation of focal adhesions into fibrillar adhesions, which are adhesive structures responsible for fibronectin deposition and fibrillogenesis. Plays a role in blood vessel development; acts as a negative regulator of angiogenesis by attenuating endothelial cell proliferation and migration, lumen formation and sprouting angiogenesis by promoting AKT phosphorylation and inhibiting ERK1/2 phosphorylation through activation of the Notch signaling pathway. Promotes transcriptional activity of the MYC promoter.

Cellular Location

Nucleus. Cytoplasm. Cytoplasm, cytoskeleton. Cell membrane. Cell projection, lamellipodium. Cell projection, ruffle. Note=Nucleocytoplasmic shuttling protein; shuttles between nucleus and cytoplasm in a integrin-dependent manner; probably sequestered in the cytosol by ITGB1. Its localization is dependent on the stage of cell spreading on fibronectin; cytoplasmic in case of round cells, corresponding to the initial step of cell spreading, or nuclear in case of well spread cells. Colocalizes with ROCK1 and NME2 at beta-1 integrin engagement sites. Together with ITGB1 and NME2 is recruited to beta-1 integrin- rich peripheral ruffles and lamellipodia during initial cell spreading on fibronectin and/or collagen

Tissue Location

Expressed in endothelial cells and fibroblasts (at protein level). Ubiquitously expressed. Expressed in intestine, colon, testis, ovary, thymus, spleen and prostate

ITGB1BP1 Antibody (Center) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

ITGB1BP1 Antibody (Center) Blocking Peptide - Images

ITGB1BP1 Antibody (Center) Blocking Peptide - Background

The cytoplasmic domains of integrins are essential for cell adhesion. The protein encoded by this gene binds to the beta1 integrin cytoplasmic domain. The interaction between this protein and beta1 integrin is highly specific. Two isoforms of this protein are derived from alternatively spliced transcripts. The shorter form of this protein does not interact with the beta1 integrin cytoplasmic domain. The longer form is a phosphoprotein and the extent of its phosphorylation is regulated by the cell-matrix interaction, suggesting an important role of this protein during integrin-dependent cell adhesion.

ITGB1BP1 Antibody (Center) Blocking Peptide - References

Brutsch, R., et al. Circ. Res. 107(5):592-601(2010) Mavaddat, N., et al. Cancer Epidemiol. Biomarkers Prev. 18(1):255-259(2009) Zhang, J., et al. Neurosurgery 63(3):571-578(2008) Furusu, A., et al. J. Cell. Physiol. 210(3):703-710(2007) Stroeken, P.J., et al. J. Cell. Physiol. 208(3):620-628(2006)