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Goat Anti-BCAR3 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1145a

Specification

Goat Anti-BCAR3 Antibody - Product Information

Application	**WB, E**
Primary Accession	O75815
Other Accession	NP_003558, 8412
Reactivity	**Mouse**
Predicted	**Human, Pig, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**92566**

Goat Anti-BCAR3 Antibody - Additional Information

Gene ID 8412

Other Names
Breast cancer anti-estrogen resistance protein 3, Novel SH2-containing protein 2, SH2 domain-containing protein 3B, BCAR3, NSP2, SH2D3B

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
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.

Precautions
Goat Anti-BCAR3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-BCAR3 Antibody - Protein Information

Name BCAR3

Synonyms NSP2, SH2D3B

Function
Acts as an adapter protein downstream of several growth factor receptors to promote cell proliferation, migration, and redistribution of actin fibers (PubMed:24216110). Specifically involved in INS/insulin signaling pathway by mediating MAPK1/ERK2-MAPK3/ERK1 activation and DNA synthesis (PubMed:24216110). Promotes insulin- mediated membrane ruffling (By similarity). In response to vasoconstrictor peptide EDN1, involved in the activation of RAP1 downstream of PTK2B via interaction with phosphorylated BCAR1 (PubMed:19086031). Inhibits cell migration and invasion via regulation of TGFB-mediated matrix digestion, actin filament rearrangement, and inhibition of invadopodia activity (By similarity). May inhibit TGFB- SMAD signaling, via facilitating BCAR1 and SMAD2 and/or SMAD3 interaction (By similarity). Regulates EGF-induced DNA synthesis (PubMed:18722344). Required for the maintenance of ocular lens morphology and structural integrity, potentially via regulation of focal adhesion complex signaling (By similarity). Acts upstream of PTPRA to regulate the localization of BCAR1 and PTPRA to focal adhesions, via regulation of SRC-mediated phosphorylation of PTPRA (By similarity). Positively regulates integrin-induced tyrosine phosphorylation of BCAR1 (By similarity). Acts as a guanine nucleotide exchange factor (GEF) for small GTPases RALA, RAP1A and RRAS (By similarity). However, in a contrasting study, lacks GEF activity towards RAP1 (PubMed:22081014).

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:Q9QZK2}. Cell junction, focal adhesion {ECO:0000250|UniProtKB:Q9QZK2} Note=Localization to focal adhesions depends on interaction with PTPRA {ECO:0000250|UniProtKB:Q9QZK2}

Tissue Location
Ubiquitously expressed. Found in several cancer cell lines, but not in nonmalignant breast tissue

Goat Anti-BCAR3 Antibody - Protocols

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

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

Goat Anti-BCAR3 Antibody - Images

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AF1145a (0.5 µg/ml) staining of Mouse Kidney epithelial cells lysate (15 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-BCAR3 Antibody - Background

Breast tumors are initially dependent on estrogens for growth and progression and can be inhibited by anti-estrogens such as tamoxifen. However, breast cancers progress to become anti-estrogen resistant. Breast cancer anti-estrogen resistance gene 3 was identified in the search for genes involved in the development of estrogen resistance. The gene encodes a component of intracellular signal transduction that causes estrogen-independent proliferation in human breast cancer cells. The protein contains a putative src homology 2 (SH2) domain, a hall mark of cellular tyrosine kinase signaling molecules, and is partly homologous to the cell division cycle protein CDC48.

Goat Anti-BCAR3 Antibody - References

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
BCAR3 regulates Src/p130 Cas association, Src kinase activity, and breast cancer adhesion signaling. Schuh NR, et al. J Biol Chem, 2010 Jan 22. PMID 19940159.
Gene-centric association signals for lipids and apolipoproteins identified via the HumanCVD BeadChip. Talmud PJ, et al. Am J Hum Genet, 2009 Nov. PMID 19913121.
AND-34/BCAR3 regulates adhesion-dependent p130Cas serine phosphorylation and breast cancer cell growth pattern. Makkinje A, et al. Cell Signal, 2009 Sep. PMID 19454314.
BCAR3 regulates EGF-induced DNA synthesis in normal human breast MCF-12A cells. Oh MJ, et al. Biochem Biophys Res Commun, 2008 Oct 24. PMID 18722344.