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BCAR3 Antibody

Catalog # ASC11531

Product Information

Application	WB, IF, E
Primary Accession	O75815
Other Accession	NP_003558, 4502371
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	92566
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	BCAR3 antibody can be used for detection of BCAR3 by Western blot at 1 - 2 g/mL. For immunofluorescence start at 20 g/mL.

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
Target/Specificity	BCAR3; At least four isoforms of BCAR3 are known to exist; this antibody will only recognize the largest isoform. BCAR3 antibody is predicted to not cross-react with other BCAR proteins.
Reconstitution & Storage	BCAR3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	BCAR3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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

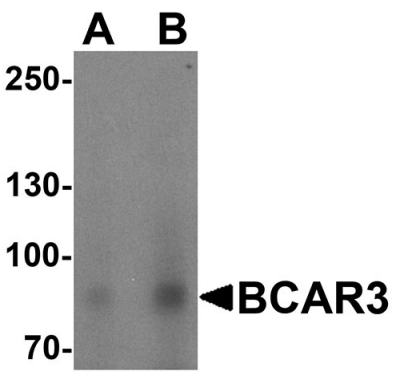
Background

BCAR3 Antibody: Breast cancer anti-estrogen resistance 3 (BCAR3) was identified in the search for genes involved in the development of estrogen resistance. It contains a putative src homology 2 (SH2) domain and is partly homologous to the cell division cycle protein CDC48. BCAR3 is a binding partner with Cas, an adapter molecule that plays a role in cell proliferation, survival, cell adhesion, and mobility. BCAR3 functions synergistically with Cas to enhance Src activation and promote cell migration, and has been suggested to regulate Cas/Src association, Src kinase activity, and breast cancer adhesion signaling.

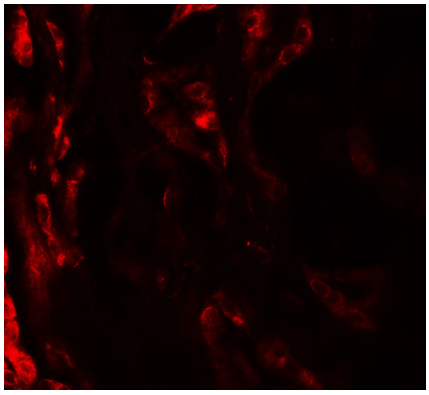
References

van Agthoven T, van Agthoven TL, Dekker A, et al. Identification of BCAR3 by a random search for genes involved in antiestrogen resistnace of human breast cancer cells. EMBO J. 1998; 17:2799-808.
Riggins RB, Quilliam LA, and Bouton AH. Synergistic promotion of c-Src activation and cell migration by Cas and AND-34/BCAR3. J. Biol. Chem. 2003; 278:28264-73.
Schuh NR, Guerrero MS, Schrecengost RS, et al. BCAR3 regulates Src/p130Cas association, Src kinase activity, and breast cancer adhesion signaling. J. Biol. Chem. 2010; 285:2309-17.

Images



Western blot analysis of BCAR3 in HeLa cell lysate with BCAR3 antibody at (A) 1 and (B) 2 µg/mL.



Immunofluorescence of BCAR3 in human kidney tissue with BCAR3 antibody at 20 µg/mL.