Revision 1

#24032 Store at -20C

BCAR3 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	95	Rabbit	#O75815	8412

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

BCAR3 antibody recognizes endogenous levels of total BCAR3 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro526 of human BCAR3 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

BCAR3 is a member of the novel SH2-containing protein (NSP) family (1). It was identified as a gene product involved in anti-estrogen resistance in the context of breast cancer (2). Like other members of this family, BCAR3 has been shown to interact with the family member, CAS. The C terminal Cdc25 homolgy domain of BCAR3 interacts tightly with the FAT domain of p130Cas (3) and promotes the association of p130cas with Src kinase (4) to activate related signaling pathways. Overexpression of BCAR3 leads to the activation of a wide range of downstream signaling proteins including PI3K, rac, PAK1, and cyclin D1 (5-7). The main role of BCAR3 is to promote cell motility and regulate cytoskeletal remodeling and adhesion through its effect on p130cas and Src kinase (8-10). BCAR3 also has been implicated in playing an inhibitory role on TGF-β/SMAD signaling, which is associated with favorable disease outcomes (11).

Background References

1. Near, R.I. et al. (2007) *J Cell Physiol* 212, 655-65.
2. van Agthoven, T. et al. (1998) *EMBO J* 17, 2799-808.
3. Mace, P.D. et al. (2011) *Nat Struct Mol Biol* 18, 1381-7.
4. Makkinje, A. et al. (2012) *J Biol Chem* 287, 27703-14.
5. Cai, D. et al. (2003) *Cancer Res* 63, 6802-8.
6. Felekkis, K.N. et al. (2005) *Mol Cancer Res* 3, 32-41.
7. Cai, D. et al. (2003) *J Immunol* 170, 969-78.
8. Schuh, N.R. et al. (2010) *J Biol Chem* 285, 2309-17.
9. Wilson, A.L. et al. (2013) *PLoS One* 8, e65678.
10. Makkinje, A. et al. (2009) *Cell Signal* 21, 1423-35.
11. Guo, J. et al. (2014) *Breast Cancer Res* 16, 476.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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