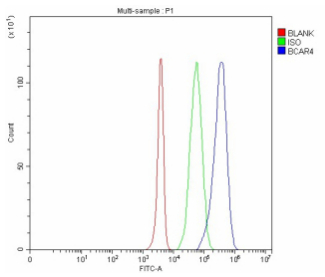
BCAR4 Antibody / Breast cancer anti-estrogen resistance protein 4 (FY13054)

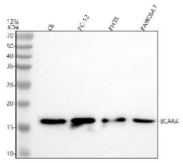
Catalog No.	Formulation	Size
FY13054	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	D3DUG6
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This BCAR4 antibody is available for research use only.



Flow Cytometry analysis of 293T cells using anti-BCAR4 antibody. Overlay histogram showing 293T cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-BCAR4 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of BCAR4 using anti-BCAR4 antibody. Lane 1: rat C6 whole cell lysates, Lane 2: rat PC-12 whole cell lysates, Lane 3: rat RH35 whole cell lysates, Lane 4:mouse RAW265.7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-BCAR4 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A single band is detected at approximately 16 kDa, slightly above the predicted molecular weight of 13 kDa. The higher apparent size is consistent with the anomalous migration of small, hydrophobic membrane-associated proteins on SDS-PAGE due to limited SDS binding.

Description

BCAR4 antibody detects Breast cancer anti-estrogen resistance protein 4, a long non-coding RNA-associated regulatory protein implicated in tumor progression and transcriptional signaling. The UniProt recommended name is Breast cancer anti-estrogen resistance protein 4 (BCAR4). Although originally identified for its role in tamoxifen resistance, BCAR4 has since been recognized as a multifunctional regulator that coordinates growth factor and developmental signaling pathways in both normal and cancerous tissues.

Functionally, BCAR4 antibody identifies a small regulatory protein and lncRNA complex component that modulates noncanonical Hedgehog signaling. BCAR4 interacts with transcriptional coactivators GLI2 and SMO, promoting activation of target genes linked to proliferation, migration, and survival. Its expression in breast, lung, and cervical carcinomas correlates with tumor aggressiveness and metastatic potential, where it facilitates estrogen-independent growth and resistance to anti-estrogen therapies.

The BCAR4 gene is located on chromosome 16p13.13 and encodes a non-coding transcript that exerts protein-like regulatory effects through RNA-protein interactions. Functionally, BCAR4 acts as a scaffold linking SNIP1 and PNUTS to p300 histone acetyltransferase, thereby enhancing transcriptional activation of downstream effectors involved in cytoskeletal dynamics and metabolic adaptation. In breast cancer, BCAR4-driven signaling enhances glucose metabolism and EMT, supporting invasive phenotypes.

Beyond oncology, BCAR4 is expressed in developmental tissues, including the embryonic brain and reproductive organs, suggesting functions in morphogenesis and differentiation. Experimental silencing of BCAR4 inhibits cell proliferation and migration, underscoring its essential role in oncogenic signaling cascades. Because of its RNA-protein hybrid function, BCAR4 exemplifies a growing class of noncoding RNAs with direct regulatory influence over gene expression.

BCAR4 antibody is widely used in cancer biology, gene regulation, and lncRNA research. It is suitable for immunohistochemistry, immunofluorescence, and western blotting to detect BCAR4 protein expression and localization. This antibody supports investigations into transcriptional signaling, drug resistance mechanisms, and cellular differentiation. In translational research, BCAR4 detection assists in studying hormone therapy resistance and metastasis formation.

Structurally, BCAR4 contains regulatory motifs facilitating interaction with transcriptional cofactors and signaling kinases. Its activity is regulated by chromatin context and nuclear-cytoplasmic shuttling. NSJ Bioreagents provides BCAR4 antibody reagents validated for use in cancer signaling, transcriptional control, and noncoding RNA research.

Application Notes

Optimal dilution of the BCAR4 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human BCAR4. was used as the immunogen for the BCAR4 antibody.

Storage

After reconstitution, the BCAR4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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