SANTA CRUZ BIOTECHNOLOGY, INC.

# ABR siRNA (h): sc-61930

## BACKGROUND

ABR, or active breakpoint cluster region-related protein, contains a Dbl-homology (DH) domain, a Pleckstrin homology domain and a C-terminal Rho-GAP domain specific for Rac. Its DH domain is only moderately active as a guanine exchange factor (GEF). ABR is highly related to Bcr (breakpoint cluster region) with 68% amino acid sequence identity. It is expressed at high levels in the central nervous system and in hematopoietic tissue. ABR, together with Bcr, is essential for normal astrocyte function, vestibular morphogenesis and Rac-mediated pathway regulation. The loss of functional ABR in murine macrophages does not result in any obvious mutant phenotype. A mild response occurs with the loss of Bcr. However, the loss of both proteins results in damage to multiple organs and possible death. This suggests that Bcr and ABR may compensate for each other.

## REFERENCES


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3. Knetsch, M.L., et al. 2001. The Dictyostelium Bcr/ABR-related protein DRG regulates both Rac- and Rab-dependent pathways. EMBO J. 20: 1620-1629.
4. Kaartinen, V., et al. 2002. Vestibular dysgenesis in mice lacking ABR and Bcr Cdc42/Rac GAPs. Dev. Dyn. 223: 517-525.
5. Cho, K., et al. 2004. CD14-mediated alterations in transcription and splicing of endogenous retroviruses after injury. Arch. Virol. 149: 2215-2233.
6. Hwang, S.L., et al. 2005. Expression of Rac 3 in human brain tumors. J. Clin. Neurosci. 12: 571-574.
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8. Olabisi, O.O., et al. 2006. Bcr interacts with components of the endosomal sorting complex required for transport-I and is required for epidermal growth factor receptor turnover. Cancer Res. 66: 6250-6257.
9. Cho, Y.J., et al. 2007. ABR and Bcr, two homologous Rac GTPase-activating proteins, control multiple cellular functions of murine macrophages. Mol. Cell. Biol. 27: 899-911.


## CHROMOSOMAL LOCATION

Genetic locus: ABR (human) mapping to 17p13.3.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

## PRODUCT

ABR siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ABR shRNA Plasmid (h): sc-61930-SH and ABR shRNA (h) Lentiviral Particles: sc-61930-V as alternate gene silencing products.

For independent verification of ABR (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61930A, sc-61930B and sc-61930C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ABR siRNA (h) is recommended for the inhibition of ABR expression in human cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ABR gene expression knockdown using RT-PCR Primer: ABR (h)-PR: sc-61930-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.