SANTA CRUZ BIOTECHNOLOGY, INC.

# BAG-6 siRNA (h): sc-72614

## BACKGROUND

BAT3 (HLA-B associated transcript 3), also known as $G_3$, scythe, BAG-6 or D6S52E, is a proline-rich nuclear protein with an important role as an apoptotic regulator. BAT3 contains one ubiquitin-like domain at its N-terminus and two nuclear localization signals at its C-terminus. Specifically, BAT3 interacts with and stabilizes AIF (apoptosis inducing factor), thereby sensitizing the cell to apoptosis mediated by endoplasmic reticulum (ER) stress. Upon ricin treatment, BAT3 is cleaved by caspase-3 and its C-terminal fragment displays pro-apoptotic activities. The apoptotic activities executed include nuclear condensation, phosphatidlyserine externalization, cell rounding and shrinkage. Mice that are deficient in BAT3 exhibit pronounced defects in lung, brain and kidney development and in the regulation of proliferation and apoptosis. These defects ultimately result in perinatal or midgestational lethality.

## REFERENCES


1. Spies, T., et al. 1989. A new cluster of genes within the human major histocompatibility complex. Science 243: 214-217.
2. Ozaki, T., et al. 1999. Cloning and characterization of rat BAT3 cDNA. DNA Cell Biol. 18: 503-512.
3. Manchen, S.T., et al. 2001. Human Scythe contains a functional nuclear localization sequence and remains in the nucleus during staurosporine-induced apoptosis. Biochem. Biophys. Res. Commun. 287: 1075-1082.
4. Wu, Y.H., et al. 2004. Ricin triggers apoptotic morphological changes through caspase-3 cleavage of BAT3. J. Biol. Chem. 279: 19264-19275.
5. Lehner, B., et al. 2004. Analysis of a high-throughput yeast two-hybrid system and its use to predict the function of intracellular proteins encoded within the human MHC class III region. Genomics 83: 153-167.
6. Chang, A.C., et al. 2006. Phenotype-based identification of host genes required for replication of African swine fever virus. J. Virol. 80: 8705-8717.
7. Sasaki, T., et al. 2007. HLA-B-associated transcript 3 (BAT3)/Scythe is essential for p300-mediated acetylation of p53. Genes Dev. 21: 848-861.
8. Pogge von Strandmann, E., et al. 2007. Human leukocyte antigen-B-associated transcript 3 is released from tumor cells and engages the NKp30 receptor on natural killer cells. Immunity 27: 965-974.


## CHROMOSOMAL LOCATION

Genetic locus: BAG6 (human) mapping to 6p21.33.

## PRODUCT

BAG-6 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 BAG-6 shRNA Plasmid (h): sc-72614-SH and BAG-6 shRNA (h) Lentiviral Particles: sc-72614-V as alternate gene silencing products.

For independent verification of BAG-6 (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-72614A, sc-72614B and sc-72614C.

## 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

BAG-6 siRNA (h) is recommended for the inhibition of BAG-6 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.

## GENE EXPRESSION MONITORING

BAG-6 (D-1): sc-365928 is recommended as a control antibody for monitoring of BAG-6 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BAG-6 gene expression knockdown using RT-PCR Primer: BAG-6 (h)-PR: sc-72614-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Castoldi, F., et al. 2020. Autophagy-mediated metabolic effects of aspirin. Cell Death Discov. 6: 129.


## RESEARCH USE

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