



band 3 siRNA (m): sc-42736

BACKGROUND

Band 3, also designated AE1, is an erythrocyte membrane glycoprotein that contributes to cell structural integrity and mediates exchange of chloride and bicarbonate across the phospholipid bilayer. The diverse functions of the approximately 900 amino acid protein are mediated by two distinct domains. The amino terminal domain, also known as cdb3 for cytoplasmic domain of erythrocyte membrane band 3, acts as an attachment site for the erythrocyte skeleton by binding ankyrin. The carboxy-terminal, membrane-associated domain carries out exchange transport of anions. Degradation of band 3 can generate an aging antigen known as senescent cell antigen, or SCA, which is expressed on old cells and marks them for removal by the immune system. An isoform of band 3, which lacks the first 65 amino acids and does not bind ankyrin, is expressed in kidney.

REFERENCES

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4. Motais, R., et al. 1997. Association of the band 3 protein with a volume-activated, anion and amino acid channel: a molecular approach. *J. Exp. Biol.* 200: 361-367.
5. Tanner, M.J. 1997. The structure and function of band 3 (AE1): recent developments (review). *Mol. Membr. Biol.* 14: 155-165.
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8. Fu, G., et al. 2004. Purification and characterization of the human erythrocyte band 3 protein C-terminal domain. *Biochemistry* 43: 1633-1638.

CHROMOSOMAL LOCATION

Genetic locus: Slc4a1 (mouse) mapping to 11 D.

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

band 3 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see band 3 shRNA Plasmid (m): sc-42736-SH and band 3 shRNA (m) Lentiviral Particles: sc-42736-V as alternate gene silencing products.

For independent verification of band 3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-42736A, sc-42736B and sc-42736C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

band 3 siRNA (m) is recommended for the inhibition of band 3 expression in mouse 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 μ M in 66 μ l. 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 band 3 gene expression knockdown using RT-PCR Primer: band 3 (m)-PR: sc-42736-PR (20 μ l, 473 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.