SANTA CRUZ BIOTECHNOLOGY, INC.

# CA VI siRNA (m): sc-77335

## BACKGROUND

Carbonic anhydrase VI (CA VI) contributes to taste function when secreted in the saliva by protecting taste receptor cells (TRCs) from apoptosis. Functional CA VI exists as a single polypeptide chain tightly bound to one molecule of zinc, and containing two N-linked glycosylation sites. Decreased CA VI secretion correlates with loss of taste (hypogeusia) and smell (hyposmia) or distorted taste (dysgeusia) and smell (dysosmia), and altered taste bud morphology. Addition of zinc to individuals experiencing these symptoms restored secretion of CA VI to normal levels and normal taste bud morphology in some, but not all, cases, indicating two different mechanisms leading to CA VI dysfunction.

## REFERENCES


1. Sutherland, G.R., et al. 1989. The gene for human carbonic anhydrase VI (CA VI) is on the tip of the short arm of chromosome 1. Cytogenet. Cell Genet. 50: 149-150.
2. Fernley, R.T., et al. 1991. Radioimmunoassay of carbonic anhydrase VI in saliva and sheep tissues. Biochem. J. 274: 313-316.
3. Ogawa, Y., et al. 1993. Immunoelectron microscopy of carbonic anhydrase isozyme VI in human submandibular gland: comparison with isozymes I and II. J. Histochem. Cytochem. 41: 343-351.
4. Parkkila, S., et al. 1993. Competitive time-resolved immunofluorometric assay for quantifying carbonic anhydrase VI in saliva. Clin. Chem. 39: 2154-2157.
5. Parkkila, S., et al. 1995. Circadian periodicity in salivary carbonic anhydrase VI concentration. Acta Physiol. Scand. 154: 205-211.
6. Kivelä, J., et al. 1997. Secretory carbonic anhydrase isoenzyme (CA VI) in human serum. Clin. Chem. 43: 2318-2322.
7. Thatcher, B.J., et al. 1998. Gustin from human parotid saliva is carbonic anhydrase VI. Biochem. Biophys. Res. Commun. 250: 635-641.
8. Henkin, R.I., et al. 1999. Efficacy of exogenous oral zinc in treatment of patients with carbonic anhydrase VI deficiency. Am. J. Med. Sci. 318: 392-405.


## CHROMOSOMAL LOCATION

Genetic locus: Car6 (mouse) mapping to 4 E2.

## PRODUCT

CA VI 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CA VI shRNA Plasmid (m): sc-77335-SH and CA VI shRNA (m) Lentiviral Particles: sc-77335-V as alternate gene silencing products.

For independent verification of CA VI (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-77335A, sc-77335B and sc-77335C.

## 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

CA VI siRNA (m) is recommended for the inhibition of CA VI 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 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

CA VI (H-8): sc-514761 is recommended as a control antibody for monitoring of CA VI 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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CA VI gene expression knockdown using RT-PCR Primer: CA VI (m)-PR: sc-77335-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## 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.