SANTA CRUZ BIOTECHNOLOGY, INC.

APC2 siRNA (h): sc-37526

BACKGROUND

The adenomatous polyposis syndromes, familial adenomatous polyposis (FAP) and Gardner's syndrome (GS), are characterized by numerous adenomatous polyps throughout the entire colon. These polyps invariably progress to colon cancer in addition to other extracolonic manifestations. Cloning of the APC gene revealed a ubiquitously expressed protein, 2,843 amino acids in length, which is frequently mutated in patients suffering from FAP and GS. APC has been found to be associated with structural components of intracellular junctions. β-catenin and γ-catenin (also called plakoglobin), are involved in the regulation of cellular adhesion. APC and E cadherin compete for binding to specific internal regions of both β- and γ-catenin. Interactions between cytoskeleton and the APC, E cadherin, β/γ catenin complex are mediated by α-catenin.

REFERENCES

1. Kinzler, K.W., et al. 1991. Identification of FAP locus genes from chromosome 5q21. Science 253: 661-665.
2. Nishisho, I., et al. 1991. Mutations of chromosome 5q21 genes in FAP and colorectal cancer patients. Science 253: 665-669.
3. Harach, H.R., et al. 1994. Familial adenomatous polyposis associated thyroid carcinoma: a distinct type of follicular cell neoplasm. Histopathology 25: 549-561.
4. Luk, G.D. 1995. Diagnosis and therapy of hereditary polyposis syndromes. Gastroenterologist 3: 153-167.
5. Olschwang, S., et al. 1995. High resolution genetic map of the adenomatous polyposis coli gene (APC). Am. J. Med. Genet. 56: 413-419.
6. Caspari, R., et al. 1995. Familial adenomatous polyposis: desmoid tumours and lack of ophthalmic lesions (CHRPE) associated with APC mutations beyond codon 1444. Hum. Mol. Genet. 4: 337-340.
7. Chop, A.M., et al. 1995. Immunodetection of the presence or absence of full-length APC gene product in human colonic tissues. Anticancer Res. 15: 991-997.
8. van Es, J.H., et al. 1999. Identification of APC2, a homologue of the adenomatous polyposis coli tumour suppressor. Curr. Biol. 9: 105-108.

CHROMOSOMAL LOCATION

Genetic locus: APC2 (human) mapping to 19p13.3.

PRODUCT

APC2 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 APC2 shRNA Plasmid (h): sc-37526-SH and APC2 shRNA (h) Lentiviral Particles: sc-37526-V as alternate gene silencing products.

For independent verification of APC2 (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-37526A, sc-37526B and sc-37526C.

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

APC2 siRNA (h) is recommended for the inhibition of APC2 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 APC2 gene expression knockdown using RT-PCR Primer: APC2 (h)-PR: sc-37526-PR (20 µl, 492 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Strunk, K.E., et al. 2007. HER4 D-box sequences regulate mitotic progression and degradation of the nuclear HER4 cleavage product s80HER4. Cancer Res. 67: 6582-6590.

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.