

ECRG4 (H-118): sc-135139

BACKGROUND

ECRG4 (esophageal cancer-related gene 4 protein), also known as augurin or C2orf40, is a 148 amino acid secreted protein. Belonging to the augurin family, ECRG4 is thought to be a hormone. It has also been suggested that ECRG4 may act as a tumor suppressor. The gene that encodes ECRG4 maps to human chromosome 2, which consists of 237 million bases encoding over 1,400 genes, making up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene. The lipid metabolic disorder sitosterolemia is associated with ABCG5 and ABCG8. An extremely rare recessive genetic disorder, Alström syndrome is due to mutations in the ALMS1 gene. Interestingly, chromosome 2 contains what appears to be a vestigial second centromere and vestigial telomeres which gives credence to the hypothesis that human chromosome 2 is the result of an ancient fusion of two ancestral chromosomes.

REFERENCES

1. Ijdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. *Proc. Natl. Acad. Sci. USA* 88: 9051-9055.
2. Yue, C.M., et al. 2003. Expression of ECRG4, a novel esophageal cancer-related gene, downregulated by CpG island hypermethylation in human esophageal squamous cell carcinoma. *World J. Gastroenterol.* 9: 1174-1178.
3. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
4. Thomas, A.C., et al. 2006. ABCA12 is the major harlequin ichthyosis gene. *J. Invest. Dermatol.* 126: 2408-2413.
5. Akiyama, M., et al. 2007. Compound heterozygous ABCA12 mutations including a novel nonsense mutation underlie harlequin ichthyosis. *Dermatology* 215: 155-159.
6. Marshall, J.D., et al. 2007. Alström syndrome. *Eur. J. Hum. Genet.* 15: 1193-1202.
7. Marshall, J.D., et al. 2007. Spectrum of ALMS1 variants and evaluation of genotype-phenotype correlations in Alström syndrome. *Hum. Mutat.* 28: 1114-1123.
8. Mori, Y., et al. 2007. Expression of ECRG4 is an independent prognostic factor for poor survival in patients with esophageal squamous cell carcinoma. *Oncol. Rep.* 18: 981-985.
9. Li, L.W., et al. 2009. Expression of esophageal cancer related gene 4 (ECRG4), a novel tumor suppressor gene, in esophageal cancer and its inhibitory effect on the tumor growth *in vitro* and *in vivo*. *Int. J. Cancer* 125: 1505-1513.

CHROMOSOMAL LOCATION

Genetic locus: C2orf40 (human) mapping to 2q12.2; 1500015010Rik (mouse) mapping to 1 C1.1.

RESEARCH USE

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

SOURCE

ECRG4 (H-118) is a rabbit polyclonal antibody raised against amino acids 31-148 mapping at the C-terminus of ECRG4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ECRG4 (H-118) is recommended for detection of ECRG4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ECRG4 (H-118) is also recommended for detection of ECRG4 in additional species, including equine and canine.

Suitable for use as control antibody for ECRG4 siRNA (h): sc-94847, ECRG4 siRNA (m): sc-143289, ECRG4 shRNA Plasmid (h): sc-94847-SH, ECRG4 shRNA Plasmid (m): sc-143289-SH, ECRG4 shRNA (h) Lentiviral Particles: sc-94847-V and ECRG4 shRNA (m) Lentiviral Particles: sc-143289-V.

Molecular Weight of ECRG4: 17 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Xu, T., et al. 2013. ECRG4 inhibits growth and invasiveness of squamous cell carcinoma of the head and neck *in vitro* and *in vivo*. *Oncol. Lett.* 5: 1921-1926.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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