SANTA CRUZ BIOTECHNOLOGY, INC.

ASP (S-21): sc-18626

BACKGROUND

ASP (agouti signaling protein or agouti switch protein) is a paracrine signaling molecule that causes hair follicle melanocytes to synthesize pheomelanin, a yellow pigment, instead of the black or brown pigment eumelanin. Consequently, agouti mice produce hairs with a subapical yellow band on an otherwise black or brown background when expressed during the midportion of hair growth. ASP is a 132-amino acid protein with a consensus signal peptide, indicating that the protein is probably secreted and is normally expressed in neonatal skin. The gene which encodes for ASP maps to human chromosome 20q11.22. AGRP (agouti-related protein) is a potent, selective antagonist of MC3R and MC4R. AGRP normally regulates body weight via central melanocortin receptors, analogous to the relation between agouti and MC1R for regulation of pigmentation. AGRP is expressed primarily in the adrenal gland, subthalamic nucleus, and hypothalamus, with a lower level of expression occurring in testis, lung and kidney. The gene which encodes for AGRP maps to human chromosome 16q22.

REFERENCES

1. Kwon, H.Y., Bultman, S.J., Loffler, C., Chen, W.J.,. Furdon, P.J., Powell, J.G., Usala, A.L., Wilkison, W., Hansmann, I., and Woychik, R.P. 1994. Molecular structure and chromosomal mapping of the human homolog of the agouti gene. Proc. Natl. Acad. Sci. USA 91: 9760-9764.
2. Ollmann, M.M., Wilson, B.D., Yang, Y.K., Kerns, J.A., Chen, Y., Gantz, I., and Barsh, G.S. 1997. Antagonism of central melanocortin receptors *in vitro* and *in vivo* by agouti-related protein. Science 278: 135-138.
3. Shutter, J.R., Graham, M., Kinsey, A.C., Scully, S., Luthy, R., and Stark, K.L. 1997. Hypothalamic expression of ART, a novel gene related to agouti, is up-regulated in obese and diabetic mutant mice. Genes Dev. 11: 593-602.
4. Katsuki, A., Sumida, Y., Gabazza, E.C., Murashima, S., Tanaka, T., Furuta, M., Araki-Sasaki, R., Hori, Y., Nakatani, K., Yano, Y., and Adachi, Y. 2001. Plasma levels of agouti-related protein are increased in obese men. J. Clin. Endocrinol. Metab. 86: 1921-1924.
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CHROMOSOMAL LOCATION

Genetic locus: ASIP (human) mapping to 20q11.22.

SOURCE

ASP (S-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ASP 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.

Blocking peptide available for competition studies, sc-18626 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ASP (S-21) is recommended for detection of ASP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ASP (S-21) is also recommended for detection of ASP in additional species, including canine and porcine.

Suitable for use as control antibody for ASP siRNA (h): sc-39289, ASP shRNA Plasmid (h): sc-39289-SH and ASP shRNA (h) Lentiviral Particles: sc-39289-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.