SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 9 (Ks9.70/Ks9.216): sc-58743

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratin 9 is an unusually large, type I acidic cytokeratin that differentiates human plantar and palmar epidermal cells. Cytokeratin 9 localizes to the suprabasal layers as well as the upper epidermal layers such as the glandular ridges and interridges. The domains of Cytokeratin 9 include a head, an α-helical coiled-coil-forming rod and a tail; Cytokeratin 9 shares significant homology with Cytokeratin 10. Mutations in the Cytokeratin 9 gene correlate with the development of epidermolytic palmoplantar keratoderma (EPPK), an autosomal dominant inherited skin disorder that is characterized by hyperkeratosis of the skin over the palms and soles.

REFERENCES

1. Moll, I., et al. 1987. Distribution of a special subset of keratinocytes characterized by the expression of Cytokeratin 9 in adult and fetal human epidermis of various body sites. Differentiation 33: 254-265.
2. Langbein, L., et al. 1993. Molecular characterization of the body site-specific human epidermal Cytokeratin 9: cDNA cloning, amino acid sequence, and tissue specificity of gene expression. Differentiation 55: 57-71.
3. Stoner, M.L., et al. 1999. Cultured epithelial autograft "take" confirmed by the presence of Cytokeratin 9. J. Invest. Dermatol. 112: 391-392.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607606. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Terrinoni, A., et al. 2004. Identification of the keratin K9 R162W mutation in patients of Italian origin with epidermolytic palmoplantar keratoderma. Eur. J. Dermatol. 14: 375-378.
6. Zhang, B.R., et al. 2004. Mutation analysis of keratin 9 gene in a pedigree with epidermolytic palmoplantar keratoderma. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 21: 570-573.
7. Hamada, T., et al. 2005. The common KRT9 gene mutation in a Japanese patient with epidermolytic palmoplantar keratoderma and knuckle pad-like keratoses. J. Dermatol. 32: 500-502.
8. Kon, A., et al. 2005. A novel mutation of keratin 9 gene (R162P) in a Japanese family with epidermolytic palmoplantar keratoderma. Arch. Dermatol. Res. 296: 375-378.

CHROMOSOMAL LOCATION

Genetic locus: KRT9 (human) mapping to 17q21.2.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

SOURCE

Cytokeratin 9 (Ks9.70/Ks9.216) is a mouse monoclonal antibody raised against amino acids 4-28 and 450-477 of Cytokeratin 9 of human origin.

PRODUCT

Each vial contains 500 µl culture supernatant containing IgG_1/IgG_3 with 0.09% sodium azide and 1% stabilizer protein.

APPLICATIONS

Cytokeratin 9 (Ks9.70/Ks9.216) is recommended for detection of Cytokeratin 9 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Suitable for use as control antibody for Cytokeratin 9 siRNA (h): sc-60501, Cytokeratin 9 shRNA Plasmid (h): sc-60501-SH and Cytokeratin 9 shRNA (h) Lentiviral Particles: sc-60501-V.

Molecular Weight of Cytokeratin 9: 62 kDa.

SELECT PRODUCT CITATIONS

1. De Rosa, L., et al. 2013. Long-term stability and safety of transgenic cultured epidermal stem cells in gene therapy of junctional epidermolysis bullosa. Stem Cell Reports 2: 1-8.
2. Uemura, N., et al. 2016. Anatomical and histological study to determine the border of sole skin. Surg. Radiol. Anat. 38: 767-773.
3. Zeng, J., et al. 2018. Increased serum protein levels by Yuanshi Shengmai Chenggu tablet in treatment of avascular osteonecrosis of the femoral head. Mol. Med. Rep. 17: 2121-2126.
4. Mo, R., et al. 2022. Nonsense mutations in KRT1 caused recessive epidermolytic palmoplantar keratoderma with knuckle pads. J. Eur. Acad. Dermatol. Venereol. E-published.

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.