SANTA CRUZ BIOTECHNOLOGY, INC.

MDA-7 (Y14): sc-80184

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MDA-7 (melanoma differentiation associated protein-7) was initially identified in cultured human melanoma cells following treatment with interferon-β and mezerin, a treatment that causes the cells to lose proliferative capacity and terminally differentiate. MDA-7 was shown to have antiproliferative properties in human melanoma cells and to reduce cell growth in tumors of diverse origin. The level of MDA-7 expression is inversely correlated with human melanoma progression, with the highest levels found in normal, proliferating melanocytes and the lowest levels found in metastatic melanoma. Overexpression of MDA-7 in human breast cancer cells has been shown to induce apoptosis and upregulate Bax expression in a p53-independent manner. However, MDA-7 does not elicit growth inhibition and apoptosis in normal, non-tumor cells.

REFERENCES

1. Fisher, P.B., et al. 1985. Effects of combined treatment with interferon and mezerein on melanogenesis and growth in human melanoma cells. J. Interferon Res. 5: 11-22.
2. Jiang, H., et al. 1995. Subtraction hybridization identifies a novel melanoma differentiation associated gene, MDA-7, modulated during human melanoma differentiation, growth and progression. Oncogene 11: 2477-2486.
3. Jiang, H., et al. 1996. The melanoma differentiation associated gene MDA-7 suppresses cancer cell growth. Proc. Natl. Acad. Sci. USA 93: 9160-9165.
4. Su, Z.Z., et al. 1998. The cancer growth suppressor gene MDA-7 selectively induces apoptosis in human breast cancer cells and inhibits tumor growth in nude mice. Proc. Natl. Acad. Sci. USA 95: 14400-14405.
5. Mumm, J.B., et al. 2006. Soluble human MDA-7/IL-24: characterization of the molecular form(s) inhibiting tumor growth and stimulating monocytes. J. Interferon Cytokine Res. 26: 877-886.
6. Buzas, K., et al. 2006. Staphylococci induce the production of melanoma differentiation-associated protein-7/IL-24. Acta Microbiol. Immunol. Hung. 53: 431-440.
7. Gopalan, B., et al. 2007. MDA-7/IL-24 suppresses human ovarian carcinoma growth *in vitro* and *in vivo*. Mol. Cancer 6: 11.
8. Yang, M., et al. 2007. Mechanisms responsible for antitumor activity of melanoma differentiation-associated gene-7/interleukin-24. Zhejiang Da Xue Xue Bao Yi Xue Ban 36: 98-102.
9. Inoue, S., et al. 2007. MDA-7 In combination with bevacizumab treatment produces a synergistic and complete inhibitory effect on lung tumor xenograft. Mol. Ther. 15: 287-294.

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 for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: IL24 (human) mapping to 1q32.1.

SOURCE

MDA-7 (Y14) is a mouse monoclonal antibody raised against full length recombinant MDA-7 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

MDA-7 (Y14) is recommended for detection of MDA-7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MDA-7 siRNA (h): sc-37446, MDA-7 shRNA Plasmid (h): sc-37446-SH and MDA-7 shRNA (h) Lentiviral Particles: sc-37446-V.

Molecular Weight of MDA-7: 24 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

RESEARCH USE

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