# SANTA CRUZ BIOTECHNOLOGY, INC.

# LAGE-1 (H-80): sc-99243



## BACKGROUND

Cancer-testis (CT) antigens are expressed in various cancers, and absent in normal adult tissues, thereby functioning as useful vaccine targets for immunotherapy. The LAGE-1 gene gives rise to two CT products: a 180 amino acid protein containing 2 glycine-rich regions and a hydrophobic stretch near the C-terminus, and an alternate 210 amino acid protein that lacks the hydrophobic stretch near the C terminus. Both proteins are expressed in melanoma cell lines, lung tumors, sarcomas, and other types of cancer cells, but but not in normal tissues except for testis and placenta. LAGE-1 activates type-1 melanoma-reactive CD4+ helper-T cells and, thus, promotes long-lasting antitumor responses.

## REFERENCES

- 1. Lethe, B., et al. 1998. LAGE-1, a new gene with tumor specificity. Int. J. Cancer 76: 903-908.
- Mandic, M., et al. 2003. The alternative open reading frame of LAGE-1 gives rise to multiple promiscuous HLA-DR-restricted epitopes recognized by T-helper 1-type tumor-reactive CD4+ T cells. Cancer Res. 63: 6506-6515.
- 3. Usener, D., et al. 2003. Seroreactivity against MAGE-A and LAGE-1 proteins in melanoma patients. Br. J. Dermatol.149: 282-288.
- Vaughan, H.A., et al. 2004. Immunohistochemical and molecular analysis of human melanomas for expression of the human cancer-testis antigens NY-ESO-1 and LAGE-1. Clin. Cancer Res. 10: 8396-8404.
- Xing, B.C., et al. 2004. Expression of NY-ESO-1/LAGE-1 genes in hepatocellular carcinoma and autologous humoral responses induced thereby. Zhonghua Yi Xue Za Zhi 84: 1980-1982.
- Bolli, M., et al. 2005. NY-ESO-1/LAGE-1 coexpression with MAGE-A cancer/ testis antigens: a tissue microarray study. Int. J. Cancer 115: 960-966.
- Sato, S., et al. 2005. Quantitative real-time RT-PCR analysis of NY-ESO-1 and LAGE-1A mRNA expression in normal tissues and tumors, and correlation of the protein expression with the mRNA copy number. Int. J. Oncol. 26: 57-63.
- Zhang, W.M., et al. 2005. Expression of NY-ESO-1 and LAGE-1 cancer-testis antigens in hepatocellular carcinoma. Zhonghua Bing Li Xue Za Zhi 34: 202-205.
- Sun, Z., et al. 2006. A new LAGE-1 peptide recognized by cytolytic T lymphocytes on HLA-A68 tumors. Cancer Immunol. Immunother. 55: 644-652.

## CHROMOSOMAL LOCATION

Genetic locus: CTAG2 (human) mapping to Xq28.

# SOURCE

LAGE-1 (H-80) is a rabbit polyclonal antibody raised against amino acids 131-210 mapping at the C-terminus of LAGE-1 of human origin.

# **RESEARCH USE**

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

### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### **APPLICATIONS**

LAGE-1 (H-80) is recommended for detection of LAGE-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); non cross-reactive with LAGE-1A.

Suitable for use as control antibody for LAGE-1 siRNA (h): sc-60916, LAGE-1 shRNA Plasmid (h): sc-60916-SH and LAGE-1 shRNA (h) Lentiviral Particles: sc-60916-V.

Molecular Weight of LAGE-1: 21 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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> 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.

MONOS Satisfation Guaranteed

Try LAGE-1 (3H1): sc-517172, our highly recommended monoclonal alternative to LAGE-1 (H-80).