

MAGE-A2 (3E5): sc-101221

BACKGROUND

The melanoma-associated antigen (MAGE) family consists of a number of antigens recognized by cytotoxic T lymphocytes. The MAGE genes were initially isolated from different kinds of tumors and, based on their virtually exclusive tumor-specific expression in adult tissues, they have been used as targets for cancer immunotherapy. MAGE genes encode for tumor-rejection antigens and are expressed in tumors of different histologic types and in normal testes and placenta. MAGE-A2 (melanoma antigen family A2), also known as MAGE2, MAGEA2A or CT1.2 (cancer/testis antigen 1.2), is a 314 amino acid protein that contains one MAGE domain. Expressed in a variety of carcinomas, including melanoma, breast cancer, lung cancer and neck and head squamous cell carcinoma, MAGE-A2 is thought to play a role in embryonic development and tumor transformation/progression. Like all members of the MAGE family, MAGE-A2 is a cancer-associated antigen that is a potential target for cancer therapy. MAGE-A2 is expressed as multiple isoforms due to alternative splicing events.

REFERENCES

1. van der Bruggen, P., et al. 1991. A gene encoding an antigen recognized by cytolytic T lymphocytes on a human melanoma. *Science* 254: 1643-1647.
2. Zakut, R., et al. 1993. Differential expression of MAGE-1, -2, and -3 messenger RNA in transformed and normal human cell lines. *Cancer Res.* 53: 5-8.
3. De Smet, C., et al. 1994. Sequence and expression pattern of the human MAGE2 gene. *Immunogenetics* 39: 121-129.
4. De Plaen, E., et al. 1994. Structure, chromosomal localization, and expression of 12 genes of the MAGE family. *Immunogenetics* 40: 360-369.
5. Rogner, U.C., et al. 1995. The melanoma antigen gene (MAGE) family is clustered in the chromosomal band Xq28. *Genomics* 29: 725-731.
6. Nagao, T., et al. 2003. MAGE-A4 interacts with the liver oncoprotein gankyrin and suppresses its tumorigenic activity. *J. Biol. Chem.* 278: 10668-10674.
7. Monte, M., et al. 2006. MAGE-A tumor antigens target p53 transactivation function through histone deacetylase recruitment and confer resistance to chemotherapeutic agents. *Proc. Natl. Acad. Sci. USA* 103: 11160-11165.
8. Wischnewski, F., et al. 2007. Methyl-CpG binding domain proteins and their involvement in the regulation of the MAGE-A1, MAGE-A2, MAGE-A3, and MAGE-A12 gene promoters. *Mol. Cancer Res.* 5: 749-759.
9. Ries, J., et al. 2008. Expression of melanoma-associated antigens in oral squamous cell carcinoma. *J. Oral Pathol. Med.* 37: 88-93.

CHROMOSOMAL LOCATION

Genetic locus: MAGEA2 (human) mapping to Xq28.

STORAGE

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

SOURCE

MAGE-A2 (3E5) is a mouse monoclonal antibody raised against recombinant MAGE-A2 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MAGE-A2 (3E5) is recommended for detection of MAGE-A2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAGE-A2 siRNA (h): sc-108018, MAGE-A2 shRNA Plasmid (h): sc-108018-SH and MAGE-A2 shRNA (h) Lentiviral Particles: sc-108018-V.

Molecular Weight of MAGE-A2: 35 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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).

RESEARCH USE

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

PROTOCOLS

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