SANTA CRUZ BIOTECHNOLOGY, INC.

GAGE3 (N-10): sc-138012

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The GAGE family is comprised of a number of highly homologous acidic proteins involved in immunity and germ cell biology. Expressed most frequently in cancerous tissue, members of the GAGE family are considered potential targets for cancer immunotherapy. GAGE3 (G antigen 3), also known as CT4.3 (cancer/testis antigen family 4, member 3), is a 118 amino acid protein that belongs to the GAGE family and is expressed in a variety of tumor tissues. The only normal tissue expressing GAGE3 is testis. The gene encoding GAGE3 maps to human chromosome X, which consists of about 153 million base pairs and nearly 1,000 genes. The combination of a X and Y chromosome lead to normal male development, while two copies of X lead to normal female development. There are a number of conditions related to an unusual number and combination of sex chromosomes being inherited, including Turner's syndrome, Klinefelter's syndrome and Triple X syndrome. Color blindness, hemophilia, and Duchenne muscular dystrophy are well-known X chromosome-linked conditions that affect males more frequently as males carry a single X chromosome.

REFERENCES

1. De Backer, O., et al. 1999. Characterization of the GAGE genes that are expressed in various human cancers and in normal testis. Cancer Res. 59: 3157-3165.
2. Bernardino-Sgherri, J., et al. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. Cytogenet. Genome Res. 99: 85-91.
3. Scanlan, M.J., et al. 2002. Cancer/testis antigens: an expanding family of targets for cancer immunotherapy. Immunol. Rev. 188: 22-32.
4. Salomon, A.R., et al. 2003. Profiling of tyrosine phosphorylation pathways in human cells using mass spectrometry. Proc. Natl. Acad. Sci. USA 100: 443-448.
5. Deeb, S.S. 2005. The molecular basis of variation in human color vision. Clin. Genet. 67: 369-377.
6. Gjerstorff, M.F. and Ditzel, H.J. 2008. An overview of the GAGE cancer/testis antigen family with the inclusion of newly identified members. Tissue Antigens 71: 187-192.
7. Caballero, O.L. and Chen, Y.T. 2009. Cancer/testis (CT) antigens: potential targets for immunotherapy. Cancer Sci. 100: 2014-2021.

CHROMOSOMAL LOCATION

Genetic locus: GAGE3 (human) mapping to Xp11.23.

SOURCE

GAGE3 (N-10) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of GAGE3 of human origin.

STORAGE

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

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-138012 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GAGE3 (N-10) is recommended for detection of GAGE3 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)], 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 other GAGE family members.

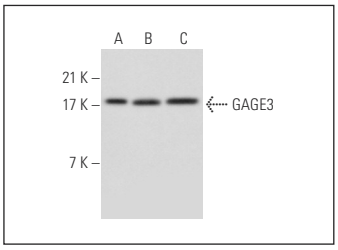
Molecular Weight of GAGE3: 13 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GAGE3 (N-10): sc-138012. Western blot analysis of GAGE3 expression in HeLa (**A**), Jurkat (**B**) and K-562 (**C**) whole cell lysates.

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.