# SANTA CRUZ BIOTECHNOLOGY, INC.

# ATAD5 (T-19): sc-54593



The Power to Question

#### BACKGROUND

The AAA ATPase family of molecular chaperones is characterized by a highly conserved AAA motif. Composed of 200-250 residues, the AAA domain contains Walker homology sequences and imparts ATPase activity. Members of the AAA ATPase family act as DNA helicases or transcription factors and are thought to be involved in several cellular functions, such as cell-cycle regulation, protein proteolysis, organelle biogenesis and vesicle-mediated protein transport. ATAD5 (ATPase family, AAA domain containing 5), also known as chromosome fragility-associated gene 1 protein, FRAG1 or ELG1, is a 1,844 amino acid nuclear protein that is involved in the DNA damage response and belongs to the AAA ATPase family. Existing as two alternatively spliced isoforms, ATAD5 interacts with Rad9 in growing cells where it assists in interactions between Rad9 and Bcl-2.

## REFERENCES

- 1. Patel, S. and Latterich, M. 1998. The AAA team: related ATPases with diverse functions. Trends Cell Biol. 8: 65-71.
- Neuwald, A.F., Aravind, L., Spouge, J.L. and Koonin, E.V. 1999. AAA+: A class of chaperone-like ATPases associated with the assembly, operation, and disassembly of protein complexes. Genome Res. 9: 27-43.
- Jenne, D.E., Tinschert, S., Reimann, H., Lasinger, W., Thiel, G., Hameister, H. and Kehrer-Sawatzki, H. 2001. Molecular characterization and gene content of breakpoint boundaries in patients with neurofibromatosis type 1 with 17q11.2 microdeletions. Am. J. Hum. Genet. 69: 516-527.
- 4. Iyer, L.M., Leipe, D.D., Koonin, E.V. and Aravind, L. 2004. Evolutionary history and higher order classification of AAA+ ATPases. J. Struct. Biol. 146: 11-31.
- Tuite, N.L., Fraser, K.R. and O'byrne, C.P. 2005. Homocysteine toxicity in Escherichia coli is caused by a perturbation of branched-chain amino acid biosynthesis. J. Bacteriol. 187: 4362-4371.
- Ishii, H., Inageta, T., Mimori, K., Saito, T., Sasaki, H., Isobe, M., Mori, M., Croce, C.M., Huebner, K., Ozawa, K. and Furukawa, Y. 2005. Frag1, a homolog of alternative replication factor C subunits, links replication stress surveillance with apoptosis. Proc. Natl. Acad. Sci. USA 102: 9655-9660.
- Sikdar, N., Banerjee, S., Lee, K.Y., Wincovitch, S., Pak, E., Nakanishi, K., Jasin, M., Dutra, A. and Myung, K. 2009. DNA damage responses by human ELG1 in S phase are important to maintain genomic integrity. Cell Cycle. 8: 3199-3207.
- 8. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 609534. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

## CHROMOSOMAL LOCATION

Genetic locus: FRAG1 (human) mapping to 11p15.5.

## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## SOURCE

ATAD5 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ATAD5 of human origin.

#### PRODUCT

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

Blocking peptide available for competition studies, sc-54593 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **APPLICATIONS**

ATAD5 (T-19) is recommended for detection of ATAD5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for ATAD5 siRNA (h): sc-62347, ATAD5 shRNA Plasmid (h): sc-62347-SH and ATAD5 shRNA (h) Lentiviral Particles: sc-62347-V.

Molecular Weight of ATAD5: 207 kDa.

#### **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) Immunofluo-rescence: use donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

# **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.