SANTA CRUZ BIOTECHNOLOGY, INC.

# ATE1 (E-4): sc-398829

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Arginyl-tRNA-protein transferase (ATE1), also designated arginyltransferase 1, belongs to the R-transferase family of proteins. In order for a protein to be degraded via the ubiquitin pathway, arginylation of the protein is required. ATE1 plays an important role in this process, as it is important for the post-translational conjugation of arginine to the N-terminal aspartate-, glutamate- and possibly cystine-contaning substrates. ATE1 is a 518 amino acid protein. Alternative splicing results in two distinct isoforms. ATE1, which is found as a monomer, can localize to the cytoplasm and/or the nucleus.

## REFERENCES


1. Kwon, Y.T., Kashina, A.S. and Varshavsky, A. 1999. Alternative splicing results in differential expression, activity, and localization of the two forms of arginyl-tRNA-protein transferase, a component of the N-end rule pathway. Mol. Cell. Biol. 19: 182-193.
2. Kwon, Y.T., Kashina, A.S., Davydov, I.V., Hu, R.G., An, J.Y., Seo, J.W., Du, F. and Varshavsky, A. 2002. An essential role of N-terminal arginylation in cardiovascular development. Science 297: 96-99.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607103. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Hu, R.G., Sheng, J., Qi, X., Xu, Z., Takahashi, T.T. and Varshavsky, A. 2005. The N-end rule pathway as a nitric oxide sensor controlling the levels of multiple regulators. Nature 437: 981-986.
5. Rai, R. and Kashina, A. 2005. Identification of mammalian arginyltransferases that modify a specific subset of protein substrates. Proc. Natl. Acad. Sci. USA 102: 10123-10128.
6. Lee, M.J., Tasaki, T., Moroi, K., An, J.Y., Kimura, S., Davydov, I.V. and Kwon, Y.T. 2005. RGS4 and RGS5 are *in vivo* substrates of the N-end rule pathway. Proc. Natl. Acad. Sci. USA 102: 15030-15035.


## CHROMOSOMAL LOCATION

Genetic locus: ATE1 (human) mapping to 10q26.13; Ate1 (mouse) mapping to 7 F3.

## SOURCE

ATE1 (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 245-270 within an internal region of ATE1 of human origin.

## PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398829 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

ATE1 (E-4) is recommended for detection of ATE1 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ATE1 siRNA (h): sc-60220, ATE1 siRNA (m): sc-60221, ATE1 shRNA Plasmid (h): sc-60220-SH, ATE1 shRNA Plasmid (m): sc-60221-SH, ATE1 shRNA (h) Lentiviral Particles: sc-60220-V and ATE1 shRNA (m) Lentiviral Particles: sc-60221-V.

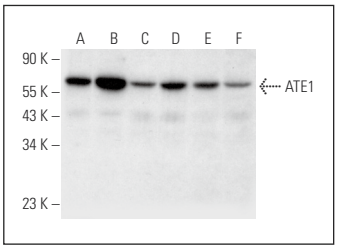
Molecular Weight of ATE1: 59 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

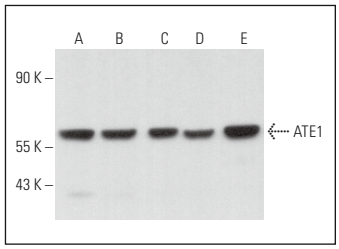
## RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




ATE1 (E-4): sc-398829. Western blot analysis of ATE1 expression in HeLa (**A**), Hep G2 (**B**), MDA-MB-231 (**C**), Jurkat (**D**), RT-4 (**E**) and U-251-MG (**F**) whole cell lysates.




ATE1 (E-4): sc-398829. Western blot analysis of ATE1 expression in MDA-MB-231 (**A**), HT-29 (**B**), COLO 205 (**C**), NIH/3T3 (**D**) and c4 (**E**) whole cell lysates.

## 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.