

# CUTA (L-12): sc-103446

## BACKGROUND

CUTA, also known as ACHAP (acetylcholinesterase-associated protein), is the 179 amino acid mammalian homolog of the cutA *E. coli* protein and is ubiquitously expressed, particularly in brain tissue. Existing as multiple alternatively spliced isoforms, CUTA functions as a homotrimer that is thought to act as a component of an acetylcholinesterase (AChE)-attached complex, suggesting an involvement in AChE regulation. The gene encoding CUTA maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

## REFERENCES

- Perrier, A.L., Cousin, X., Boschetti, N., Haas, R., Chatel, J.M., Bon, S., Roberts, W.L., Pickett, S.R., Massoulie, J., Rosenberry, T.L. and Krejci, E. 2000. Two distinct proteins are associated with tetrameric acetylcholinesterase on the cell surface. *J. Biol. Chem.* 275: 34260-34265.
- Navaratnam, D.S., Fernando, F.S., Priddle, J.D., Giles, K., Clegg, S.M., Pappin, D.J., Craig, I. and Smith, A.D. 2000. Hydrophobic protein that copurifies with human brain acetylcholinesterase: amino acid sequence, genomic organization, and chromosomal localization. *J. Neurochem.* 74: 2146-2153.
- Anesano, F., Banci, L., Benvenuti, M., Bertini, I., Calderone, V., Mangani, S. and Viezzoli, M.S. 2003. The evolutionarily conserved trimeric structure of CUTA1 proteins suggests a role in signal transduction. *J. Biol. Chem.* 278: 45999-46006.
- Yang, J., Li, Q., Yang, H., Yan, L., Yang, L. and Yu, L. 2008. Overexpression of human CUTA isoform2 enhances the cytotoxicity of copper to HeLa cells. *Acta Biochim. Pol.* 55: 411-415.
- Bagautdinov, B., Matsuura, Y., Bagautdinova, S., Kunishima, N. and Yutani, K. 2008. Structure of putative CutA1 from *Homo sapiens* determined at 2.05 Å resolution. *Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun.* 64: 351-357.
- Liang, D., Nunes-Tavares, N., Xie, H.Q., Carvalho, S., Bon, S. and Massoulie, J. 2009. Protein CutA undergoes an unusual transfer into the secretory pathway and affects the folding, oligomerization, and secretion of acetylcholinesterase. *J. Biol. Chem.* 284: 5195-5207.
- Yang, J., Yang, H., Yan, L., Yang, L. and Yu, L. 2009. Characterization of the human CUTA isoform2 present in the stably transfected HeLa cells. *Mol. Biol. Rep.* 36: 63-69.

## CHROMOSOMAL LOCATION

Genetic locus: CUTA (human) mapping to 6p21.32; CutA (mouse) mapping to 17 A3.3.

## SOURCE

CUTA (L-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CUTA of human origin.

## 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-103446 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CUTA (L-12) is recommended for detection of CUTA of mouse, rat and 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); non cross-reactive with CUTC.

CUTA (L-12) is also recommended for detection of CUTA in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CUTA siRNA (h): sc-95128, CUTA siRNA (m): sc-105251, CUTA shRNA Plasmid (h): sc-95128-SH, CUTA shRNA Plasmid (m): sc-105251-SH, CUTA shRNA (h) Lentiviral Particles: sc-95128-V and CUTA shRNA (m) Lentiviral Particles: sc-105251-V.

Molecular Weight of CUTA: 20 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) 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.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **CUTA (H-8): sc-398827**, our highly recommended monoclonal alternative to CUTA (L-12).