SANTA CRUZ BIOTECHNOLOGY, INC.

AL (11A1): sc-59944

BACKGROUND

AL is an altered amino acid, specifically a N-epsilon acetyl lysine. AL catalyzes the reversible transamination of hydrophobic D-amino acids with pyridoxal 5'-phosphate (PLP). Acetylation of specific lysine residues in the N-terminal domains of core histones is a biochemical marker of active genes, and thus antibodies to these lysines prove to be extremely useful as a research tool. AL can also be used as a lysine derivative used to treat individuals with a lysine deficiency which may lead to epithelial diamino acid transport in lysinuric protein intolerance (LPI), a defect that results from an abnormality of the basolateral cell membranes.

REFERENCES

1. Rajantie, J., Simell, O. and Perheentupa, J. 1983. Oral administration of epsilon N-acetyllysine and homocitrulline in lysinuric protein intolerance. J. Pediatr. 102: 388-390.
2. Violand, B.N., Schlittler, M.R., Lawson, C.Q., Kane, J.F., Siegel, N.R., Smith, C.E., Kolodziej, E.W. and Duffin, K.L. 1994. Isolation of *Escherichia coli* synthesized recontain ε-N-acetyllysine. Protein Sci. 3: 1089-1097.
3. Crane-Robinson, C., Hebbes, T.R., Clayton, A.L. and Thorne, A.W. 1997. Chromosomal mapping of core histone acetylation by immunoselection. Methods 12: 48-56.
4. Hudson, B.P., Martinez-Yamout, M.A., Dyson, H.J. and Wright, P.E. 2000. Solution structure and acetyl-lysine binding activity of the GCN5 bromodomain. J. Mol. Biol. 304: 355-370.
5. Schultz, B.E., Misialek, S., Wu, J., Tang, J., Conn, M.T., Tahilramani, R. and Wong, L. 2004. Kinetics and comparative reactivity of human class I and class IIb histone deacetylases. Biochemistry 43: 11083-11091.
6. Fatkins, D.G., Monnot, A.D. and Zheng, W. 2006. Nepsilon-thioacetyl-lysine: a multi-facet functional probe for enzymatic protein lysine Nepsilon-deacetylation. Bioorg. Med. Chem. Lett. 16: 3651-3656.
7. Golinelli-Pimpaneau, B., Lüthi, C. and Christen, P. 2006. Structural basis for D-amino acid transamination by the pyridoxal 5'-phosphate-dependent catalytic antibody 15A9. J. Biol. Chem. 281: 23969-23977.

SOURCE

AL (11A1) is a mouse monoclonal antibody.

PRODUCT

Each vial contains 100 µl ascites containing IgG_1 with < 0.1% sodium azide.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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

APPLICATIONS

AL (11A1) is recommended for detection of the Nα-acetyl lysine (AL), N-acetyl putrescine and acetylated histones by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with either propionyl lysine or butyryl lysine.

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) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

RESEARCH USE

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