SANTA CRUZ BIOTECHNOLOGY, INC.

AMCase (E-11): sc-365676

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chitinases are ubiquitous chitin-fragmenting hydrolases. The chitinase Chitotriosidase is capable of cleaving natural chitin and chitin-like substrates in humans and may play a role in immunity against pathogens containing chitin. Activated human macrophages secrete Chitotriosidase and increased plasma levels of Chitotriosidase are a feature of patients suffering from Gaucher's disease. Expression of mouse Chitotriosidase is restricted to brain, skin, bone marrow, kidney, tongue, stomach and testis. The homology between Chitotriosidase and chitinases found in lower organisms is significant. Acidic mammalian chitinase precursor (AMCase) degrades chitotriose and chitin. AMCase is highly expressed in stomach tissues and is primarily a secreted protein. It is involved in Th2-mediated inflammation and may play a role in asthma and allergic diseases.

REFERENCES

1. Zhu, Z., et al. 2004. Acidic mammalian chitinase in asthmatic Th2 inflammation and IL-13 pathway activation. Science 304: 1678-1682.
2. Malaguarnera, L., et al. 2005. Interferon-γ, tumor necrosis factor α, and lipopolysaccharide promote chitotriosidase gene expression in human macrophages. J. Clin. Lab. Anal. 19: 128-132.
3. Di Rosa, M., et al. 2005. Effect of interferon-γ, interleukin-10, lipopolysaccharide and tumor necrosis factor α on Chitotriosidase synthesis in human macrophages. Clin. Chem. Lab. Med. 43: 499-502.
4. Aerts, J.M., et al. 2005. Identification and use of biomarkers in Gaucher disease and other lysosomal storage diseases. Acta Paediatr. Suppl. 94: 43-46.
5. Deegan, P.B., et al. 2005. Clinical evaluation of biomarkers in Gaucher disease. Acta Paediatr. Suppl. 94: 47-50.
6. Brinkman, J., et al. 2005. Plasma Chitotriosidase and CCL18: early biochemical surrogate markers in type B Niemann-Pick disease. J. Inherit. Metab. Dis. 28: 13-20.
7. Boot, R.G., et al. 2005. Marked differences in tissue-specific expression of chitinases in mouse and man. J. Histochem. Cytochem. 53: 1283-1292.

CHROMOSOMAL LOCATION

Genetic locus: CHIA (human) mapping to 1p13.2; Chia1 (mouse) mapping to 3 F2.2.

SOURCE

AMCase (E-11) is a mouse monoclonal antibody raised against amino acids 168-214 mapping within an internal region of AMCase 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.

STORAGE

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

APPLICATIONS

AMCase (E-11) is recommended for detection of AMCase 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), immunohistochemistry (including paraffin-embedded sections) (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 AMCase siRNA (h): sc-60160, AMCase siRNA (m): sc-60161, AMCase shRNA Plasmid (h): sc-60160-SH, AMCase shRNA Plasmid (m): sc-60161-SH, AMCase shRNA (h) Lentiviral Particles: sc-60160-V and AMCase shRNA (m) Lentiviral Particles: sc-60161-V.

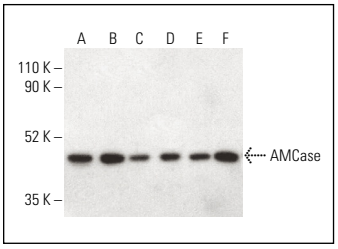
Molecular Weight of AMCase: 50/39 kDa.

Positive Controls: A549 cell lysate: sc-2413, WI-38 whole cell lysate: sc-364260 or Jurkat whole cell lysate: sc-2204.

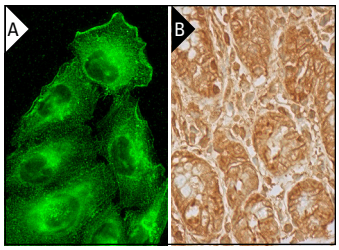
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



AMCase (E-11): sc-365676. Western blot analysis of AMCase expression in WI-38 (**A**), Jurkat (**B**), A549 (**C**), HEL 92.1.7 (**D**), MOLT-4 (**E**) and KNRK (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



AMCase (E-11): sc-365676. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

RESEARCH USE

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