SANTA CRUZ BIOTECHNOLOGY, INC.

α2ML1 (G-8): sc-393082

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

α-2-Macroglobulin (α-2M) is a homotetrameric serum protein consisting of four identical subunits that form dimers through disulfide bonds. Initially, α-2M was characterized as a pan-proteinase inhibitor that was able to "bait" proteinases into cleaving specific peptide sequences on α-2M. This interaction induces a conformational change in α-2M, thus enabling it to "trap" the proteinase and further inhibit its activity. Subsequently, α-2M has been shown to function as a carrier protein and regulator of cytokines during inflammation. Circulating transforming growth factor β (TGFβ) in serum is primarily bound to α-2M, which renders TGFβ inactive. Mutations and deletions in the gene encoding α-2M are associated with an increased incidence of Alzheimer's disease (AD). α-2-Macroglobulin-like protein 1 (α2ML1) is a related protein that is expressed in the epidermis and may play a role in keratinocyte differentiation.

REFERENCES

1. Barrett, A.J. and Starkey, P.M. 1973. The interaction of α-2-Macroglobulin with proteinases. Characteristics and specificity of the reaction, and a hypothesis concerning its molecular mechanism. Biochem. J. 133: 709-724.
2. Tsuchiya, Y., et al. 1987. Sequence analysis of the putative regulatory region of rat α-2-Macroglobulin gene. Gene 57: 73-80.
3. Borth, W., et al. 1990. Binding of IL-1 β to α-macroglobulins and release by thioredoxin. J. Immunol. 145: 3747-3754.

CHROMOSOMAL LOCATION

Genetic locus: A2ML1 (human) mapping to 12p13.31.

SOURCE

α2ML1 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 87-122 near the N-terminus of α2ML1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α2ML1 (G-8) is available conjugated to agarose (sc-393082 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393082 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393082 PE), fluorescein (sc-393082 FITC), Alexa Fluor® 488 (sc-393082 AF488), Alexa Fluor® 546 (sc-393082 AF546), Alexa Fluor® 594 (sc-393082 AF594) or Alexa Fluor® 647 (sc-393082 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393082 AF680) or Alexa Fluor® 790 (sc-393082 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393082 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

α2ML1 (G-8) is recommended for detection of α2ML1 of 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 α2ML1 siRNA (h): sc-95683, α2ML1 shRNA Plasmid (h): sc-95683-SH and α2ML1 shRNA (h) Lentiviral Particles: sc-95683-V.

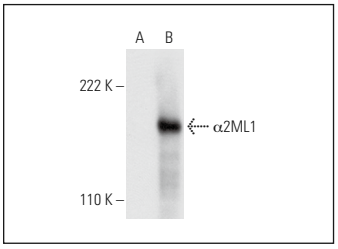
Molecular Weight of α2ML1: 180 kDa.

Positive Controls: α2ML1 (h): 293T Lysate: sc-372458.

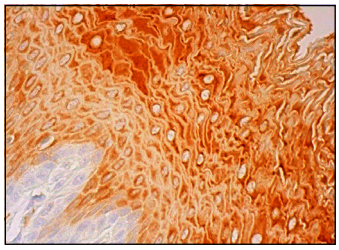
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



α2ML1 (G-8): sc-393082. Western blot analysis of α2ML1 expression in non-transfected: sc-117752 (**A**) and human α2ML1 transfected: sc-372458 (**B**) 293T whole cell lysates.



α2ML1 (G-8): sc-393082. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

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.