

# $\alpha$ 2ML1 (E-16): sc-138824

## BACKGROUND

$\alpha$ -2-Macroglobulin ( $\alpha$ -2M) is a homotetrameric serum protein consisting of four identical subunits that form dimers through disulfide bonds. Initially,  $\alpha$ -2M was characterized as a pan-proteinase inhibitor that was able to "bait" proteinases into cleaving specific peptide sequences on  $\alpha$ -2M. This interaction induces a conformational change in  $\alpha$ -2M, thus enabling it to "trap" the proteinase and further inhibit its activity. Subsequently,  $\alpha$ -2M has been shown to function as a carrier protein and regulator of cytokines during inflammation. Circulating transforming growth factor  $\beta$  (TGF $\beta$ ) in serum is primarily bound to  $\alpha$ -2M, which renders TGF $\beta$  inactive. Mutations and deletions in the gene encoding  $\alpha$ -2M are associated with an increased incidence of Alzheimer's disease (AD).  $\alpha$ -2-macroglobulin-like protein 1 ( $\alpha$ 2ML1) is a related protein that is expressed in the epidermis and may play a role in keratinocyte differentiation.

## REFERENCES

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- Blacker, D., et al. 1998.  $\alpha$ 2 macroglobulin is genetically associated with Alzheimer disease. *Nat. Genet.* 19: 357-360.
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## CHROMOSOMAL LOCATION

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

## SOURCE

$\alpha$ 2ML1 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of  $\alpha$ 2ML1 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138824 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$\alpha$ 2ML1 (E-16) is recommended for detection of  $\alpha$ 2ML1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

$\alpha$ 2ML1 (E-16) is also recommended for detection of  $\alpha$ 2ML1 in additional species, including canine.

Suitable for use as control antibody for  $\alpha$ 2ML1 siRNA (h): sc-95683,  $\alpha$ 2ML1 shRNA Plasmid (h): sc-95683-SH and  $\alpha$ 2ML1 shRNA (h) Lentiviral Particles: sc-95683-V.

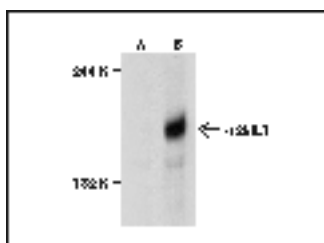
Molecular Weight of  $\alpha$ 2ML1: 180 kDa.

Positive Controls:  $\alpha$ 2ML1 (h): 293T Lysate: sc-372458.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Western blot analysis of human and mouse cell lysates. Lane A: 293T lysate (positive control). Lane B: mouse cell lysate (negative control). Molecular weight markers are indicated on the left (204 K and 132 K). The band at approximately 180 kDa is labeled  $\alpha$ 2ML1.

## RESEARCH USE

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