SANTA CRUZ BIOTECHNOLOGY, INC.

α-2M (R-19): sc-8517

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 inhibit its further activity. Subsequently, α-2M has also 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. α-2M also binds to IL-6 and, thereby, increases the concentration of IL-6 near lymphocytes, hepatocytes and stem cells involved in mediating the inflammatory cascade. Mutations and deletions in the gene encoding α-2M are associated with an increased incidence of Alzheimer's Disease (AD), which is consistent with the role of α-2M in mediating the clearance and degradation of Aβ, the major component of β-Amyloid deposits accumulated during AD.

CHROMOSOMAL LOCATION

Genetic locus: A2M (human) mapping to 12p13.31; A2m (mouse) mapping to 6 F1.

SOURCE

α-2M (R-19) is available as either goat (sc-8517) or rabbit (sc-8517-R) polyclonal affinity purified antibody raised against a peptide mapping at the N-terminus of α-2M of rat 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-8517 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

α-2M (R-19) is recommended for detection of α-2M of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for α-2M siRNA (h): sc-40297, α-2M siRNA (m): sc-40298, α-2M shRNA Plasmid (h): sc-40297-SH, α-2M shRNA Plasmid (m): sc-40298-SH, α-2M shRNA (h) Lentiviral Particles: sc-40297-V and α-2M shRNA (m) Lentiviral Particles: sc-40298-V.

Molecular Weight of α-2M tetrameric protein: 718 kDa.

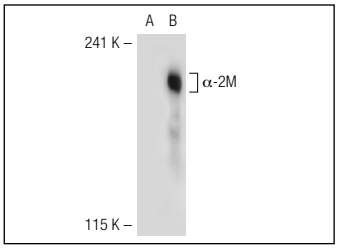
Molecular Weight of α-2M subunit: 185 kDa.

Positive Controls: α-2M (h): 293T Lysate: sc-115474 or Jurkat whole cell lysate: sc-2204.

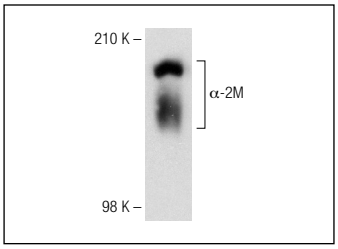
STORAGE

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

DATA



α-2M (R-19)-R: sc-8517-R. Western blot analysis of α-2M expression in non-transfected: sc-117752 (**A**) and human α-2M transfected: sc-115474 (**B**) 293T whole cell lysates.



α-2M (R-19)-R: sc-8517-R. Western blot analysis of human recombinant α-2M.

SELECT PRODUCT CITATIONS

1. Fonseca, B.M., et al. 2014. Rat spontaneous foetal resorption: altered α2-macroglobulin levels and uNK cell number. Histochem. Cell Biol. 142: 693-701.
2. Fonseca, B.M., et al. 2015. Anandamide restricts uterine stromal differentiation and is critical for complete decidualization. Mol. Cell. Endocrinol. 411: 167-176.
3. Almada, M., et al. 2015. Anandamide and decidual remodelling: COX-2 oxidative metabolism as a key regulator. Biochim. Biophys. Acta 1851: 1473-1481.

RESEARCH USE

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

PROTOCOLS

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