SANTA CRUZ BIOTECHNOLOGY, INC.

α-2M (C-18): sc-8514

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. 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 A β, the major component of β-Amyloid deposits accumulated during AD.

CHROMOSOMAL LOCATION

Genetic locus: A2M (human) mapping to 12p13.31.

SOURCE

α-2M (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of α-2M of human 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-8514 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

α-2M (C-18) is recommended for detection of α-2M of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

α-2M (C-18) is also recommended for detection of α-2M in additional species, including equine, canine, bovine and porcine.

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

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

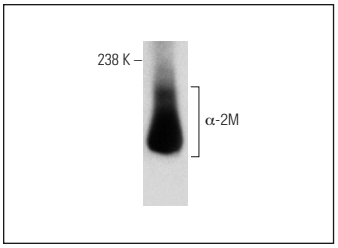
Molecular Weight of α-2M subunits: 185 kDa.

Positive Controls: human plasma extract: sc-364374 or Jurkat whole cell lysate: sc-2204.

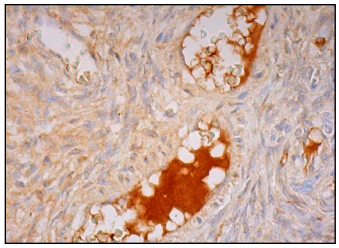
RECOMMENDED SECONDARY REAGENTS

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



α-2M (C-18): sc-8514. Western blot analysis of α-2M expression in human plasma whole cell lysate.



α-2M (C-18): sc-8514. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic staining of ovarian stroma cells and staining of plasma in blood vessels.

SELECT PRODUCT CITATIONS

1. Meyer-Siegler, K.L., et al. 2006. Macrophage migration inhibitory factor is increased in the urine of patients with urinary tract infection: macrophage migration inhibitory factor-protein complexes in human urine. J. Urol. 175: 1523-1528.

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 or our catalog for detailed protocols and support products.