

BACKGROUND

Lipids, such as phospholipids, triacylglycerols and cholesterol, are weakly soluble in aqueous solution and therefore are transported by circulation as components of lipoproteins. Lipoproteins are globular particles that consist of a non-polar core of triacylglycerols and cholesterol esters surrounded by phospholipid, cholesterol and an amphiphilic coating of protein, known as Apolipoproteins (apo). These complexes allow the dissolution and shuttling of their non-polar lipid components. At least nine different apolipoproteins are distributed in significant amounts in different human lipoproteins. Apolipoprotein D (apoD) is a member of the lipocalin superfamily of transporter proteins that bind small hydrophobic molecules, including arachidonic acid (AA). The ability of apoD to bind AA implicates it in pathways associated with membrane phospholipid signal transduction and metabolism. apoD expression has been shown to correlate both with cell cycle arrest and with prognosis in several types of malignancy, including central nervous system astrocytomas and medulloblastomas.

REFERENCES

1. Yao, J.K., et al. 2005. Association of plasma apolipoproteins D with RBC membrane arachidonic acid levels in schizophrenia. *Schizophr. Res.* 72: 259-266.
2. Ganfornina, M.D., et al. 2005. Molecular characterization and developmental expression pattern of the chicken apolipoprotein D gene: implications for the evolution of vertebrate lipocalins. *Dev. Dyn.* 232: 191-199.
3. Hildebrand, M.S., et al. 2005. Expression of the carrier protein apolipoprotein D in the mouse inner ear. *Hear. Res.* 200: 102-114.

CHROMOSOMAL LOCATION

Genetic locus: APOD (human) mapping to 3q29; Apod (mouse) mapping to 16 B2.

SOURCE

apoD (D-12) is a mouse monoclonal antibody raised against amino acids 1-189 representing full length apoD of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

apoD (D-12) is available conjugated to agarose (sc-166612 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166612 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166612 PE), fluorescein (sc-166612 FITC), Alexa Fluor® 488 (sc-166612 AF488), Alexa Fluor® 546 (sc-166612 AF546), Alexa Fluor® 594 (sc-166612 AF594) or Alexa Fluor® 647 (sc-166612 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166612 AF680) or Alexa Fluor® 790 (sc-166612 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

apoD (D-12) is recommended for detection of apoD 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

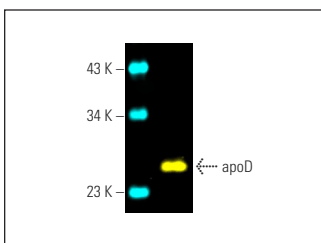
Suitable for use as control antibody for apoD siRNA (h): sc-45518, apoD siRNA (m): sc-45519, apoD shRNA Plasmid (h): sc-45518-SH, apoD shRNA Plasmid (m): sc-45519-SH, apoD shRNA (h) Lentiviral Particles: sc-45518-V and apoD shRNA (m) Lentiviral Particles: sc-45519-V.

Molecular Weight of apoD: 30 kDa.

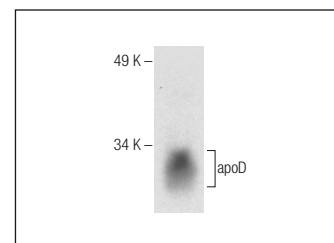
Positive Controls: rat liver extract: sc-2395, mouse liver extract: sc-2256 or human liver extract: sc-363766.

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.

DATA

apoD (D-12) Alexa Fluor® 488: sc-166612 AF488. Direct fluorescent western blot analysis of apoD expression in human liver tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 647: sc-516791.



apoD (D-12): sc-166612. Western blot analysis of apoD expression in mouse liver tissue extract.

SELECT PRODUCT CITATIONS

1. Li, H., et al. 2015. Apolipoprotein D modulates amyloid pathology in APP/PS1 Alzheimer's disease mice. *Neurobiol. Aging* 36: 1820-1833.

STORAGE

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