SANTA CRUZ BIOTECHNOLOGY, INC.

DBP (A-5): sc-365441

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vitamin D-binding protein (DBP) is a multi-functional serum protein that binds to the plasma membranes of numerous cell types and mediates a variety of cellular functions. The locus of the DBP protein (also known as group-specific component protein or GC) is located at human chromosome 4q13.3. DBP functions in organ-specific transportation of vitamin D and its metabolites to the various target organs of the vitamin D endocrine system. In addition, DBP has immunomodulatory properties and is able to bind to the surface of leukocytes. DBP binds to the plasma membrane through a chondroitin sulfate proteoglycan. DBP serves as a co-chemotactic factor for C5a to enhance the chemotactic activity of C5a. DBP can also bind to globular Actin with high affinity and is involved in the clearance of Actin from the blood. DBP plays an important role in osteoclast differentiation. The diverse cellular functions of DBP require its cell surface binding ability to mediate different biological processes.

CHROMOSOMAL LOCATION

Genetic locus: GC (human) mapping to 4q13.3.

SOURCE

DBP (A-5) is a mouse monoclonal antibody raised against amino acids 175-474 mapping at the C-terminus of DBP 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.

DBP (A-5) is available conjugated to agarose (sc-365441 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365441 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365441 PE), fluorescein (sc-365441 FITC), Alexa Fluor® 488 (sc-365441 AF488), Alexa Fluor® 546 (sc-365441 AF546), Alexa Fluor® 594 (sc-365441 AF594) or Alexa Fluor® 647 (sc-365441 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365441 AF680) or Alexa Fluor® 790 (sc-365441 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

DBP (A-5) is recommended for detection of DBP 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 DBP siRNA (h): sc-41375, DBP shRNA Plasmid (h): sc-41375-SH and DBP shRNA (h) Lentiviral Particles: sc-41375-V.

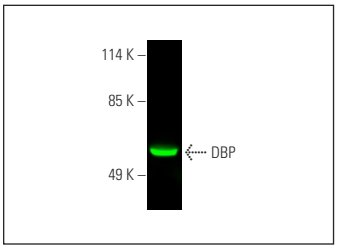
Molecular Weight of DBP: 58 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, NCI-H929 whole cell lysates: sc-364786 or human plasma extract: sc-364374.

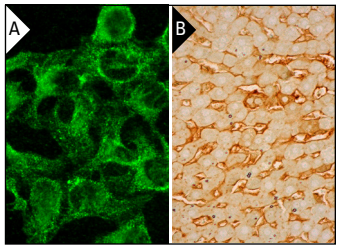
RECOMMENDED SUPPORT REAGENTS

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



DBP (A-5): sc-365441. Near-Infrared western blot analysis of DBP in human plasma. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



DBP (A-5): sc-365441. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes and cytoplasmic and membrane staining of hepatic sinusoids (**B**).

SELECT PRODUCT CITATIONS

1. Izquierdo, I., et al. 2016. Proteomic identification of putative biomarkers for early detection of sudden cardiac death in a family with a LMNA gene mutation causing dilated cardiomyopathy. J. Proteomics 148: 75-84.
2. Petrov, B., et al. 2018. Bipolar disorder in youth is associated with increased levels of vitamin D-binding protein. Transl. Psychiatry 8: 61.
3. Refaat, B., et al. 2021. Effects of supraphysiological vitamin D_3 (cholecalciferol) supplement on normal adult rat ovarian functions. Histochem. Cell Biol. 155: 655-668.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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