SANTA CRUZ BIOTECHNOLOGY, INC.

DBP (E-15): sc-18705

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.

REFERENCES

1. DiMartino, S.J., et al. 1999. Initial characterization of the vitamin D binding protein (Gc-globulin) binding site on the neutrophil plasma membrane: evidence for a chondroitin sulfate proteoglycan. J. Immunol. 163: 2135-2142.
2. Pani, M.A., et al. 1999. Vitamin D binding protein alleles and susceptibility for type 1 diabetes in Germans. Autoimmunity 31: 67-72.
3. Papiha, S.S., et al. 1999. Vitamin D binding protein gene in male osteoporosis: association of plasma DBP and bone mineral density with (TAAA)(n)-Alu polymorphism in DBP. Calcif. Tissue Int. 65: 262-266.
4. Hirai, M., et al. 2000. Variations in vitamin D-binding protein (group-specific component protein) are associated with fasting plasma Insulin levels in Japanese with normal glucose tolerance. J. Clin. Endocrinol. Metab. 85: 1951-1953.
5. Swamy, N., et al. 2000. Probing with vitamin D sterol-binding pocket of human vitamin D-binding protein with bromoacetate affinity labeling reagents containing the affinity probe at C-1, C-6, C-11 and C-19 positions of parent vitamin D sterols. Arch. Biochem. Biophys. 373: 471-478.

CHROMOSOMAL LOCATION

Genetic locus: GC (human) mapping to 4q13.3; Gc (mouse) mapping to 5 E1.

SOURCE

DBP (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DBP 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-18705 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

DBP (E-15) is recommended for detection of vitamin D binding protein (DBP) of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DBP (E-15) is also recommended for detection of DBP in additional species, including canine and porcine.

Suitable for use as control antibody for DBP siRNA (h): sc-41375, DBP siRNA (m): sc-41376, DBP shRNA Plasmid (h): sc-41375-SH, DBP shRNA Plasmid (m): sc-41376-SH, DBP shRNA (h) Lentiviral Particles: sc-41375-V and DBP shRNA (m) Lentiviral Particles: sc-41376-V.

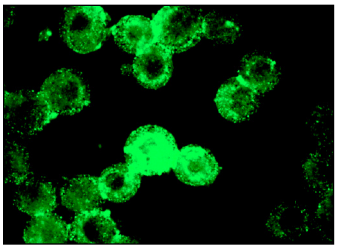
Molecular Weight of DBP: 58 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207.

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.

DATA



DBP (E-15): sc-18705. Immunofluorescence staining of methanol-fixed BJAB cells showing cytoplasmic localization.

STORAGE

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