

Calbindin D9K (H-60): sc-28532

BACKGROUND

The family of EF-hand type Ca^{2+} -binding proteins includes Calbindin D28K (previously designated vitamin D-dependent Ca^{2+} -binding protein), Calbindin D9K, S-100 α and β , Calgranulin A (also designated MRP8), Calgranulin B (also designated MRP14) and Calgranulin C, and the Parvalbumin family members, including Parvalbumin α and Parvalbumin β (also designated oncomodulin). The gene encoding human Calbindin D9K is located on the X chromosome and consists of three exons and contains four Alu repeats. Calbindin D9K protein is present in cartilage, bone and certain teeth, such as the ameloblasts of incisors and molars. In addition, Calbindin D9K mRNA is detected in proximal small intestine, but not in human kidney, uterus or placenta (however, the protein is present in these tissues in other species). Rat Calbindin D9K binds the estrogen receptor because the gene encoding it contains an estrogen response element downstream from its promoter. In contrast, the homologous human sequence differs by two essential nucleotides and does not bind the estrogen receptor, suggesting that this change suppresses gene expression in human tissues, such as uterus and possibly placenta.

REFERENCES

1. Bruns, M.E., et al. 1977. Control of vitamin D-dependent calcium-binding protein in rat intestine by growth and fasting. *J. Biol. Chem.* 252: 4145-4150.
2. Bruns, M.E., et al. 1978. Placental calcium binding protein in rats. Apparent identity with vitamin D-dependent calcium binding protein from rat intestine. *J. Biol. Chem.* 253: 3186-3190.
3. Marche, P., et al. 1978. Intestinal and placental calcium-binding proteins in vitamin D-deprived or -supplemented rats. *Life Sci.* 23: 2555-2561.
4. Bruns, M.E., et al. 1985. Immunohistochemical localization of vitamin D-dependent calcium-binding protein in mouse placenta and yolk sac. *Anat. Rec.* 213: 514-517, 532-535.

CHROMOSOMAL LOCATION

Genetic locus: S100G (human) mapping to Xp22.2; S100g (mouse) mapping to X F4.

SOURCE

Calbindin D9K (H-60) is a rabbit polyclonal antibody raised against amino acids 1-60 mapping at the N-terminus of Calbindin D9K 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.

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.

APPLICATIONS

Calbindin D9K (H-60) is recommended for detection of Calbindin D9K 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).

Calbindin D9K (H-60) is also recommended for detection of Calbindin D9K in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Calbindin D9K siRNA (h): sc-43654, Calbindin D9K siRNA (m): sc-45865, Calbindin D9K shRNA Plasmid (h): sc-43654-SH, Calbindin D9K shRNA Plasmid (m): sc-45865-SH, Calbindin D9K shRNA (h) Lentiviral Particles: sc-43654-V and Calbindin D9K shRNA (m) Lentiviral Particles: sc-45865-V.

Molecular Weight of Calbindin D9K: 9 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Akhter, S., et al. 2007. Calbindin D9K is not required for 1,25-dihydroxy-vitamin D_3 -mediated Ca^{2+} absorption in small intestine. *Arch. Biochem. Biophys.* 460: 227-232.
2. Xi, Q.L., et al. 2011. Effect of silencing VDR gene in kidney on renal epithelial calcium transporter proteins and urinary calcium excretion in genetic hypercalciuric stone-forming rats. *Urology* 78: 1442.e1-1442.e7.

PROTOCOLS

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

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Try **Calbindin D9K (D-5): sc-74462** or **Calbindin D9K (F-6): sc-74492**, our highly recommended monoclonal alternatives to Calbindin D9K (H-60).