

# Calbindin D9K (F-6): sc-74492

## BACKGROUND

The family of EF-hand type  $\text{Ca}^{2+}$ -binding proteins includes Calbindin (previously designated vitamin D-dependent  $\text{Ca}^{2+}$ -binding protein), Calbindin D9K, S-100  $\alpha$  and  $\beta$ , Calgranulin A (also designated MRP8), Calgranulin B (also designated MRP14) and Calgranulin C, and the Parvalbumin family members, including Parvalbumin  $\alpha$  and Parvalbumin  $\beta$  (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 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. Delorme, A.C., et al. 1979. Vitamin D-dependent calcium-binding protein. Changes during gestation, prenatal and postnatal development in rats. *J. Dev. Physiol.* 3: 181-194.
5. Garel, J.M., et al. 1981. C cell activity during the prenatal and postnatal periods in the rat. *Endocrinology* 109: 1573-1577.
6. Delorme, A.C., et al. 1982. Biochemical characterization of mouse vitamin D-dependent calcium-binding protein. Evidence for its presence in embryonic life. *Biochem. J.* 205: 49-57.
7. Bruns, M.E., et al. 1985. Immunochemical 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.

## SOURCE

Calbindin D9K (F-6) is a mouse monoclonal antibody raised against amino acids 1-60 mapping at the N-terminus of Calbindin D9K of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Calbindin D9K (F-6) is recommended for detection of Calbindin D9K of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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 Calbindin D9K siRNA (h): sc-43654, Calbindin D9K shRNA Plasmid (h): sc-43654-SH and Calbindin D9K shRNA (h) Lentiviral Particles: sc-43654-V.

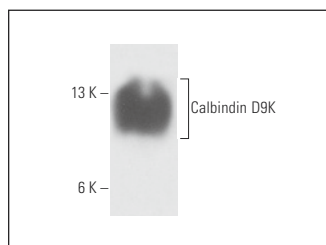
Molecular Weight of Calbindin D9K: 9 kDa.

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

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



Calbindin D9K (F-6): sc-74492. Western blot analysis of porcine recombinant Calbindin D9K.

## 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](http://www.scbt.com) for detailed protocols and support products.