



Product Datasheet

Product Name	Calbindin D-28K Rat Recombinant
Cata No	CB501021
Source	<i>Escherichia Coli.</i>
Synonyms	Calbindin, Vitamin D-dependent calcium-binding protein, avian-type, Calbindin D28, D-28K, Spot 35 protein, Calb1, CaBP28K, MGC93326.

Description

Calbindins are Ca-binding proteins belonging to the troponin C superfamily. CALB28K/Calbindin1/CALB1 (D28K/Spot35 protein or cholecalciferin, rat 261 aa; mouse 261 aa; human 261-aa, chromosome 8q21.3-q22.1) was originally described as 27-kDa induced by vitamin D in the duodenum of chicken. In mammals, it is expressed in the kidney, pancreatic islets, and brain. In brain, its synthesis is independent of vitamin D. CABP28K contains 4 active and 2 inactive EF-hand Ca-binding domains. The gene for CABP28K is clustered in the same region as carbonic anhydrase. The neurons in the brains of patients with Huntington disease are CAB28K depleted. There are two types of CaBPs: the "trigger"- and the "buffer"-CaBPs. The conformation of "trigger" type CaBPs changes upon Ca^{2+} binding and exposes regions on protein that interact with target molecules, thus altering their activity. The buffer-type CABP are thought to control the intracellular calcium concentration. Calbindin D-28K is found predominantly in subpopulations of central and peripheral nervous system neurons, and in certain epithelial cells involved in Ca^{2+} transport such as distal tubular cells and cortical collecting tubules of the kidney, and in enteric neuroendocrine cells.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Purity

Greater than 90% as determined by SDS-PAGE.

Formulation

The protein was lyophilized from a concentrated solution (1mg/ml) containing 0.1mM $CaCl_2$.

Reconstitution

It is recommended to reconstitute the lyophilized CABP28K in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized CABP28K although stable at room temperature for 3 weeks, should be stored desiccated below -18 $^{\circ}$ C. Upon reconstitution CABP28K should be stored at 4 $^{\circ}$ C between 2-7 days and for future use below -18 $^{\circ}$ C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

Applications CABP28K can be used for immunoblots, absorption experiments in immunohistochemistry, radioimmunoassay and intracellular injection.

For adsorption we suggest the following procedure:

A- Dilute 1 μ l of the monoclonal antibody against calbindin D-28k in 5 ml of the usual buffer for immunohistochemistry (final dilution 1:5'000).

B- Add 1 μ g of the recombinant protein to 1 ml of the diluted antibody solution and mix well.

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- C- Incubate for at least 6 hours in the cold.
- D- Apply to tissue-sections and incubate for 3 days.
- E- Complete the immunohistochemical reaction as usual (biotinylated second antibody, ABC-complex, DAB).

As a result, the immunohistochemical reaction should be reduced or even completely prevented.

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