



**Catalog Number:** RA22144

**Host:** Rabbit

**Product Type:** Rabbit Polyclonal

**Species Reactivity:** Human, Rat, Mouse

**Immunogen Sequence:** Full-length recombinant human calretinin protein expressed in and purified from E. coli.

**Format:** Supplied as an aliquot of serum plus 5mM NaN3

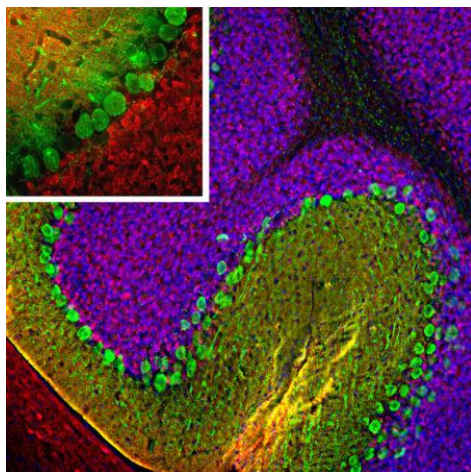
**Applications:** Immunofluorescence: 1: 5,000-10,000  
Immunohistochemistry: 1:5,000-10,000  
Western Blot: 1:5,000-10,000

**Storage:** Dilutions listed as a recommendation. Optimal dilution should be determined by investigator. Antibody can also be aliquotted and stored frozen at -20° C in a manual defrost freezer for six months without detectable loss of activity. The antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. Avoid repeated freeze-thaw cycles.

### Application Notes

#### Description/Data

Calretinin is a member of the large superfamily of cytoplasmic Calcium binding proteins and is expressed in mammalian central nerve system, testis, fallopian tube and pancreas. It contains "EF hand" type Calcium binding motifs and in the brain is localized in certain classes of neurons, the prototype for which is parvalbumin. Calretinin is particularly concentrated in some cerebellar granular cells and their parallel fibers, but is also found in many GABAergic interneurons in the cortex. These GABAergic interneurons in most cases express only one of three related Calcium binding proteins, namely calretinin, calbindin or parvalbumin. As a result these important inhibitory interneurons can be identified and classified based on their content of these three proteins. Each type of neuron as defined in this fashion has distinct electrophysiological and functional properties. The function of calretinin appears to be primarily buffering the Calcium level in cells and affect intracellular Calcium signals. Calretinin deficiency in mice in the mossy cells of the dentate gyrus and granule cells results in abnormal excitability in the cerebellar neuronal network and impairment of long-term potentiation and motor coordination.



The rabbit polyclonal antibody to Calretinin, RA22144, was made against full length recombinant human calretinin expressed in and purified from E. coli. The calretinin protein is related in amino acid sequence to calbindin and to a lesser extent parvalbumin, so, for studies of GABAergic interneurons, it is important to verify that antibodies developed against one protein do not cross react with either of the others, which has been done with this antibody.

*Image: Immunofluorescent analysis of rat cerebellum section stained with rabbit pAb to calretinin, RA22144, dilution 1:5,000 in red, and costained with mouse mAb to calbindin in green.*

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