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DATASHEET

Anti-Calretinin antibody ValidAbTM

Product overview

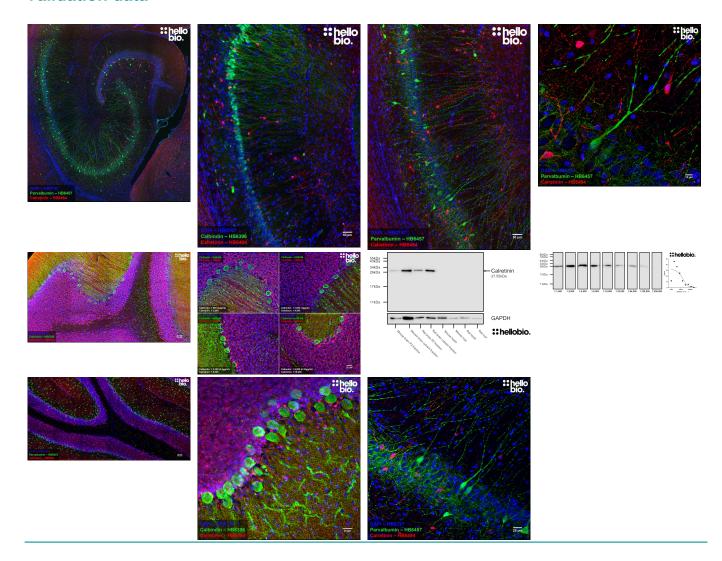
Name Anti-Calretinin antibody ValidAbTM

Cat No HB6494
Host Rabbit
Clonality Polyclonal
Target Calretinin

Description Antibody to Calretinin - calcium binding protein used as a marker for an inhibitory interneuron subtype.

Part of the ValidAb™ range of highly validated, data-rich antibodies.

Validation data



Product information

Purification Unpurified

Formulation Serum + 0.03% sodium azide

Predicted species reactivity **Tested species reactivity**

Mouse, Rat, Human Mouse, Rat

Tested applications

Applications WB, IHC(IF)

Western blot optimal

A dilution of 1:8,000 as tested in a rat brain cytosol preparation.

concentration

Positive control

IHC(IF) optimal concentration A dilution of 1:4,000 as tested in paraformal dehyde fixed free-floating rat cerebellum sections. Calretinin is expressed in inhibitory interneurones in a wide range of brain regions including the

cerebellum and hippocampus. Calretinin is also expressed in a wide array of cell lines (see the human

protein atlas).

Negative control Calretinin lacks expression in somatic tissues such as the liver, skin and skeletal muscle. Calretinin

expression is also lacking in many cell lines such as HEK293T and HeLa.

Open data link Please follow this link to OSF.

Target information

Other names CALB2, CAB29, CAL2, Calbindin 2, 29kDa calbindin

UniProt ID P22676 Gene name CALB2 NCBI full gene name calbindin 2 Entrez gene ID

Amino acids 271 (31.5kDa)

Isoforms Calretinin only has one described isoform.

Expression Calretinin is expressed widely amongst inhibitory interneurons in the brain with particularly high

expression in the cerebellum and hippocampus. It is also expressed in peripheral tissues such as the

testes, lung, pancreas and kidney.

Subcellular expression

Target function

Calretinin is primarily expressed cytosolically although some nuclear expression has been reported. Calretinin serves as a calcium-binding protein that is involved in calcium homeostasis and signaling within cells. It acts as a calcium buffer, helping to regulate intracellular calcium levels and modulating

neuronal excitability through this rapid calcium buffering.

Processing Post translational modifications

Homology (compared to

human)

Similar proteins

Calretinin is not subject to any processing before achieving an active conformation

Calretinin is subject to phosphorylation on tyrosine 214.

Mouse and rat calretinin show 98.5% and 98.9% homology respectively to human calretinin. Mouse

and rat calretinin only show 1 amino acid difference (M271V).

In a BLAST search only Calbindin (58.5% identity, 28kDa) was identified as being a similar protein.

Storage & Handling

Storage instructions Reconstitution advice

-20°C then use reconstitution advice

Upon receipt store at either -20°C or -80°C.

For 100µg packs either:

- Reconstitute with 100µl dH₂O and store at 4°C
- Reconstitute with 50µl dH₂O and 50µl glycerol then store at -20°C
- Reconstitute with 100µl dH2O, aliquot then snap freeze and store at -80°C

For 25µg packs either:

- Reconstitute with 25µl dH₂O and store at 4°C
- Reconstitute with 12.5µl dH₂O and 12.5µl glycerol then store at -20°C
- Reconstitute with 25µl dH₂O, aliquot then snap freeze and store at -80°C

Important

precipitate is extremely light and can easily be lost if disturbed. When reconstituting make sure that the antibody is thoroughly dissolved by pipetting up and down before giving the antibody a brief spin at 10,000g to make sure that all material is recovered and at the bottom of the tube.

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not

for human or veterinary use

References

Calretinin: from a "simple" Ca(2+) buffer to a multifunctional protein implicated in many biological processes.

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Calretinin-Expressing Synapses Show Improved Synaptic Efficacy with Reduced Asynchronous Release during High-Rate Activity.

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Calretinin positive neurons form an excitatory amplifier network in the spinal cord dorsal horn.

Smith KM et al (2019) eLife 8

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Calretinin as a marker for cardiac myxoma. Diagnostic and histogenetic considerations.

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