

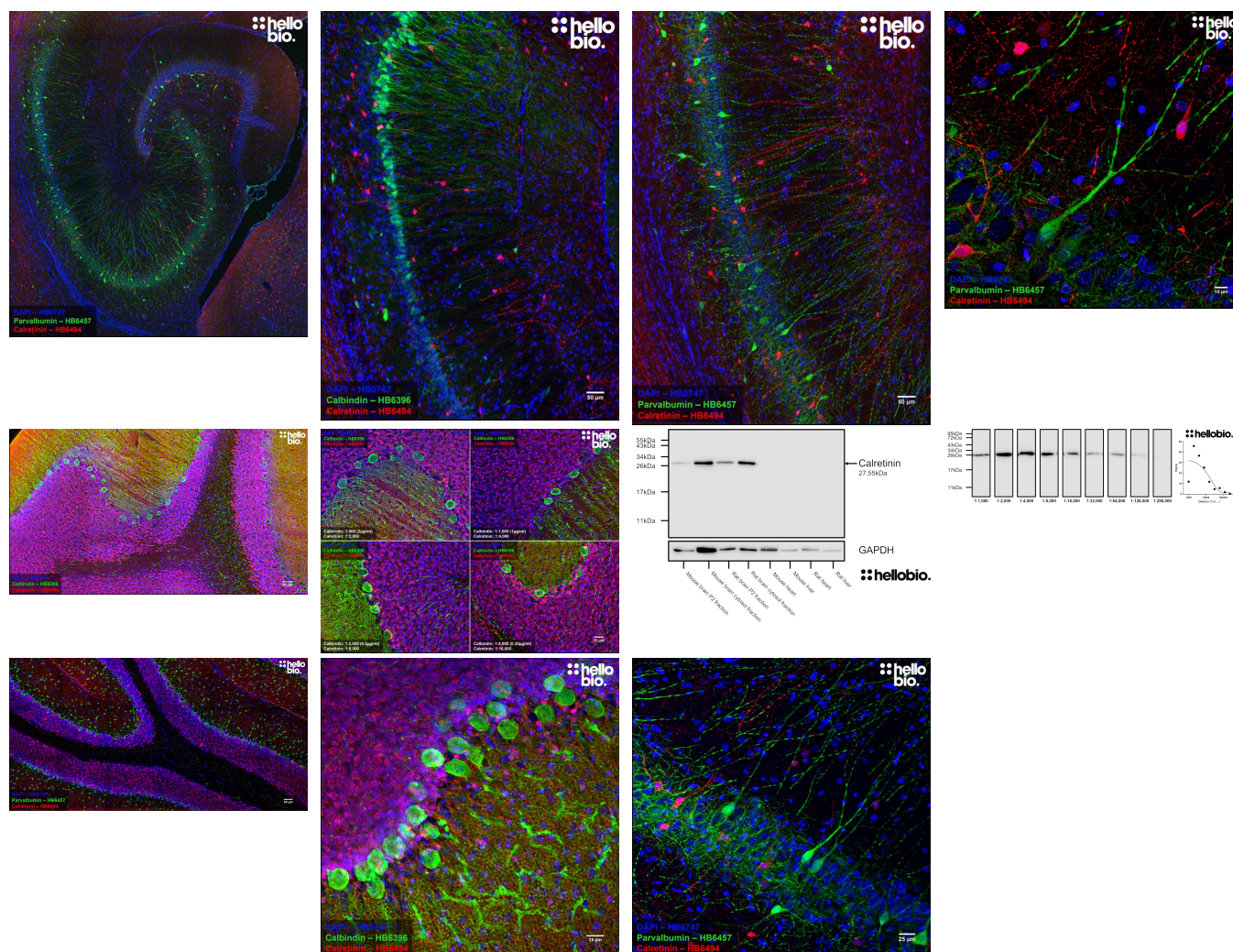
DATASHEET

Anti-Calretinin antibody ValidAb™

Product overview

Name	Anti-Calretinin antibody ValidAb™
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

Immunogen	Recombinant human calretinin expressed in and purified from <i>E. coli</i>
------------------	--

Purification	Unpurified
Formulation	Serum + 0.03% sodium azide
Predicted species reactivity	Mouse, Rat, Human
Tested species reactivity	Mouse, Rat

Tested applications

Applications	WB, IHC(IF)
Western blot optimal concentration	A dilution of 1:8,000 as tested in a rat brain cytosol preparation.
IHC(IF) optimal concentration	A dilution of 1:4,000 as tested in paraformaldehyde fixed free-floating rat cerebellum sections.
Positive control	Calretinin is expressed in inhibitory interneurons 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	794
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	Calretinin is primarily expressed cytosolically although some nuclear expression has been reported.
Target function	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	Calretinin is not subject to any processing before achieving an active conformation
Post translational modifications	Calretinin is subject to phosphorylation on tyrosine 214.
Homology (compared to human)	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).
Similar proteins	In a BLAST search only Calbindin (58.5% identity, 28kDa) was identified as being a similar protein.

Storage & Handling

Storage instructions	-20 °C then use reconstitution advice
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

For more information [read our guide](#) on the best care for your product. Take care when opening as the

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.

Schwaller B (2014) Frontiers in neuroanatomy 8

PubMedID [24550787](#)

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

Zhang C et al (2022) The Journal of neuroscience : the official journal of the Society for Neuroscience 42

PubMedID [35165172](#)

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

Smith KM et al (2019) eLife 8

PubMedID [31713514](#)

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

Terracciano LM et al (2000) American journal of clinical pathology 114

PubMedID [11068550](#)

Interneurons containing calretinin are specialized to control other interneurons in the rat hippocampus.

Gulyás AI et al (1996) The Journal of neuroscience : the official journal of the Society for Neuroscience 16

PubMedID [8627375](#)

Structural and molecular heterogeneity of calretinin-expressing interneurons in the rodent and primate striatum.

Garas FN et al (2018) The Journal of comparative neurology 526

PubMedID [29218729](#)
