Anti-Calretinin Antibody [JM12-93]

ET1705-19

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IHC-Fr, IF-Tissue
Molecular Wt:	Predicted band size: 32 kDa
Clone number:	JM12-93

Description: Calretinin, also known as calbindin 2 (formerly 29 kDa calbindin), is a calcium-binding protein involved in calcium signaling. In humans, the calretinin protein is encoded by the CALB2 gene. This gene encodes an intracellular calcium-binding protein belonging to the troponin C superfamily. Members of this protein family have six EF-hand domains which bind calcium. This protein plays a role in diverse cellular functions, including message targeting and intracellular calcium buffering. Calretinin is abundantly expressed in neurons including retina (which gave it the name) and cortical interneurons. Expression was found in different neurons than that of the similar vitamin D-dependent calcium-binding protein, calbindin-28kDa. Calretinin has an important role as a modulator of neuronal excitability including the induction of long-term potentiation. Loss of expression of calretinin in hippocampal interneurons has been suggested to be relevant in temporal lobe epilepsy. It is expressed in a number of other locations including hair follicles.

Immunogen: Synthetic peptide within human Calretinin aa 60-100.

Positive control: Mouse brain tissue lysate, mouse hippocampus tissue lysate, rat brain tissue lysate, rat hippocampus tissue lysate, human brain tissue, mouse brain tissue, rat brain tissue, mouse hippocampus tissue, mouse cerebral cortex tissue.

Subcellular location: Cytosol, dendrite, gap junction, nucleus, parallel fiber to Purkinje cell synapse, synapse, terminal bouton.

Database links: SwissProt: P22676 Human | Q08331 Mouse | P47728 Rat

Recommended Dilutions:

WB	1:2,000
IHC-P	1:5,000
IHC-Fr	1:500
IF-Tissue	1:1,000

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

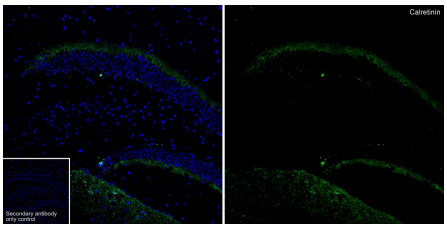

Fig1: Application: IHC-Fr

Species: Mouse

Site: Hippocampus

Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: The section was pre-treated using 1% SDS buffer (in PBS, pH 7.4) for 5 minutes at room temperature.

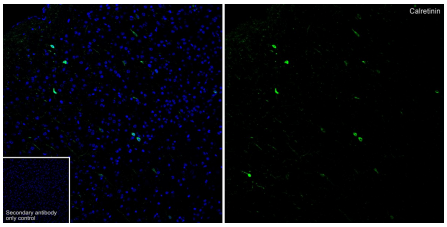

Fig2: Application: IHC-Fr

Species: Mouse

Site: Cerebral cortex

Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: The section was pre-treated using 1% SDS buffer (in PBS, pH 7.4) for 5 minutes at room temperature.

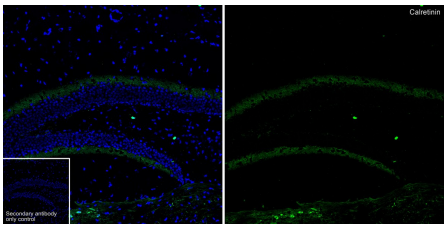

Fig3: Application: IHC-Fr

Species: Mouse

Site: Hippocampus

Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

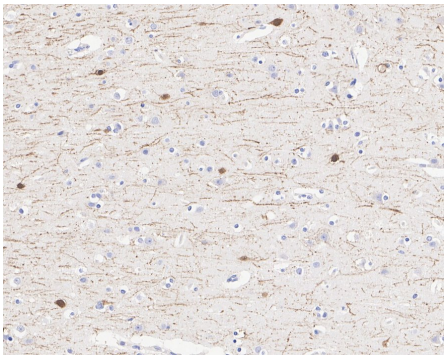

Fig4: Immunohistochemical analysis of paraffin-embedded human brain tissue with Rabbit anti-Calretinin antibody (ET1705-19) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1705-19) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

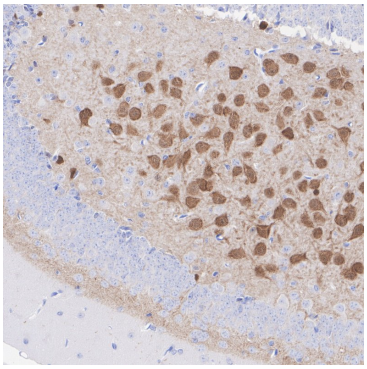

Fig5: Immunohistochemical analysis of paraffin-embedded mouse hippocampus tissue with Rabbit anti-Calretinin antibody (ET1705-19) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1705-19) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

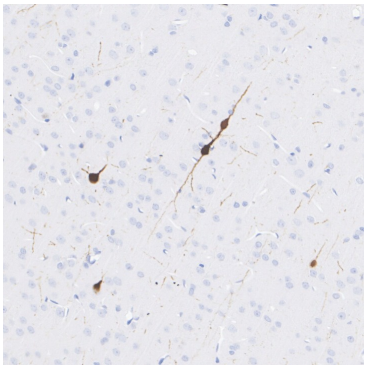

Fig6: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Calretinin antibody (ET1705-19) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1705-19) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

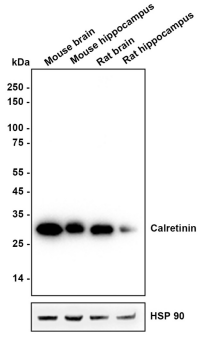

Fig7: Western blot analysis of Calretinin on different lysates with Rabbit anti-Calretinin antibody (ET1705-19) at 1/2,000 dilution.

Lane 1: Mouse brain tissue lysate
Lane 2: Mouse hippocampus tissue lysate
Lane 3: Rat brain tissue lysate
Lane 4: Rat hippocampus tissue lysate

Lysates/proteins at 40 µg/Lane.

Predicted band size: 32 kDa
Observed band size: 29 kDa

Exposure time: 25 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1705-19) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Francavilla C et al. Phosphoproteomics of Primary Cells Reveals Druggable Kinase Signatures in Ovarian Cancer. Cell Rep 18:3242-3256 (2017).
2. McMahon SM et al. Multiple cytosolic calcium buffers in posterior pituitary nerve terminals. J Gen Physiol 147:243-54 (2016).