

Parvalbumin (EP300)

Rabbit anti-Parvalbumin Antibody (Clon EP300)

References and presentations¹

- **ready-to-use (manual or LabVision AutoStainer)**
MAD-000776QD-3
MAD-000776QD-7
MAD-000776QD-12
- **Ready-to-use (MD-Stainer)²**
MAD-000776QD-3/V
MAD-000776QD/V
- **concentrated**
MAD-000776Q - 1:50 recommended dilution

Composition: anti-human Parvalbumin rabbit monoclonal antibody purified from serum and prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide

Intended use^{IVD}: Immunohistochemistry (IHC) on paraffin embedded tissues. Not tested on frozen tissues or Western-Blotting

Clone: EP300³

Ig isotype: rabbit IgG

Species reactivity: In vitro diagnostics in humans. Not tested in other species

Description and applications:

Parvalbumin is a protein with wide calcium-ion-binding affinity and thus intervenes in its cytosolic homeostasis. The PVALB gene, which encodes the production of this protein, is located in the chromosome region 22q12.3 and shows structural and functional similarities with the one of the Calmodulin and Troponin C, whose coding genes constitute a superfamily.

In the skeletal muscle, the Parvalbumin acts as a relaxation factor of muscle fibers, whereas in the myocardium it is absent in normal conditions. Nonetheless, in experimental models, it has been

proven that Parvalbumin causes relaxation of the cardiac muscle after calcium ion sequestration, and thus contributing to the remission of heart failure by diastolic dysfunction.

High levels of the protein are found in the muscle fibers, which are able to provide rapid contractions, whereas low levels can be detected in the renal collecting tubules, some endocrine organs and the brain.

The diagnostic utility of Parvalbumin has been proven in numerous review articles on renal cell tumors, in which it is described that this protein marks specifically the chromophobe renal cell carcinomas and oncocytomas, due to the fact that they have been proposed as a useful marker within the panel of antibodies used for the diagnosis of renal cell tumors formed by cells with eosinophilic cytoplasm. In fact, along with the positive staining for Vimentin and C-Kit, it integrates the basic diagnostic panel of chromophobe carcinoma.

Furthermore, its utility has also been proven in the diagnosis of Hürthle cell adenomas of the thyroid, both in cases of difficult interpretation and, especially, in cytological samples of them.

In other neoplasias, the staining of Parvalbumin has not been assessed. Therefore, its positivity must be considered a non-specific marker with limited utility, except within an appropriate morphological and immunohistochemical context.

IHC positive control: Tissue section from chromophobe carcinoma of the kidney.

Visualization: Cytoplasm

IHC recommended procedure:

- 4µm thick section should be taken on charged slides; dry overnight at 60°C
- Deparaffinise, rehydrate and HIER (heat induced epitope retrieval) – boil tissue in the Pt Module using Vitro S.A Edta buffer pH8⁴ for 20 min at 95°C. Upon completion rinse with 3-5 changes of distilled or deionised water followed by cooling at RT for 20 min
- Endogenous peroxidase block - Blocking for 10 minutes at room temperature using peroxidase solution (ref. MAD-021540Q-125)
- Primary antibody: incubate for 20 minutes [The antibody dilution (when concentrated) and

¹ These references are for presentation in vials of Low Density Polyethylene (LDPE) dropper. In case the products are used in automated stainers, a special reference is assigned as follows:

- / L: Cylindrical screw-cap vials (QD-3 / L, QD-7 / L, QD-12 / L).
- / N: Polygonal screw-cap vials (QD-3 / N, QD-7 / N, QD-12 / N).

For different presentations (references / volumes) please contact the supplier.

² For Technical specifications for MD-Stainer, please contact your distributor.

³ Manufactured with technology from Epitomics RabMAb ® under the US patent No. 5.675.063 and 7.402.409

⁴ Ref: MAD-004072R/D



protocol may vary depending on the specimen preparation and specific application. Optimal conditions should be determined by the individual laboratory]

- For detection use Master Polymer Plus Detection System (HRP) (DAB included; ref. MAD-000237QK)
- Counterstaining with haematoxylin and final mounting of the slide

STORAGE AND STABILITY:  Stored at 2-8°C. Do not freeze.  Once the packaging has been opened it can be stored until the expiration date of the reagent indicated on the label. If the reagent has been stored under other conditions to those indicated in this document, the user must first check its correct performance taking into account the product warranty is no longer valid.

Warnings and precautions:

1. Avoid contact of reagents with eyes and mucous membranes. If reagents come into contact with sensitive areas, wash with copious amounts of water.
2. This product is harmful if swallowed.
3. Consult local or state authorities with regard to recommended method of disposal.
4. Avoid microbial contamination of reagents.

SAFETY RECOMMENDATIONS

This product is intended for laboratory professional use only. The product is NOT intended to be used as a drug or for domestic purposes. The current version of the Safety Data Sheet for this product can be downloaded by searching the reference number at www.vitro.bio or can be requested at regulatory@vitro.bio.

BIBLIOGRAPHY

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3. Wahr PA, Michele DE, Metzger JM. Parvalbumin gene transfer corrects diastolic dysfunction in diseased cardiac myocytes. *Proc Natl Acad Sci U S A.* 1999 Oct 12;96(21):11982-5.
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5. Shen SS, Truong LD, Scarpelli M, Lopez-Beltran A. Role of immunohistochemistry in diagnosing renal neoplasms: when is it really useful? *Arch Pathol Lab Med.* 2012 Apr;136(4):410-7.
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7. Foix MP, Dunatov A, Martinek P, Mundó EC, Suster S, Sperga M, Lopez JI, Ulamec M, Bulimbasic S, Montiel DP, Alaghebandan R, Peckova K, Pivovarcikova K, Ondrej D, Rotterova P, Skenderi F, Prochazkova K, Dusek M, Hora M, Michal M, Hes O. Morphological, immunohistochemical, and chromosomal analysis of multicystic chromophobe renal cell carcinoma, an architecturally unusual challenging variant. *Virchows Arch.* 2016 Dec;469(6):669-678.
1. Cerutti JM, Oler G, Delcelo R, Gerardt R, Michaluart P Jr, de Souza SJ, Galante PA, Huang P, Riggins GJ. PVALB, a new Hürthle adenoma diagnostic marker identified through gene expression. *J Clin Endocrinol Metab.* 2011 Jan;96(1):E151-60.

LABEL AND BOX SYMBOLS

Explanation of the symbols of the product label and box:

	Expiration date
	Temperature limit
	Manufacturer
	Sufficient content for <n> assays
	Catalog number
	Lot code
	Refer to the instructions of use
	Medical product for <i>in vitro</i> diagnosis.
	Material safety data sheet