

## ATRX (POLYCLONAL)

### Rabbit anti-ATRX Polyclonal Antibody (polyclona)

#### REFERENCES AND PRESENTATIONS<sup>1</sup>

- **ready-to-use (manual or LabVision AutoStainer)**  
MAD-000782QD-3  
MAD-000782QD-7  
MAD-000782QD-12
- **concentrated**  
MAD-000782Q - 1:50 recommended dilution

#### COMPOSITION

Rabbit anti-ATRX polyclonal antibody obtained from purified ascitic fluid and prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide.

**INTENDED USE** : Immunohistochemistry (IHC) on paraffin embedded tissues. Not tested on frozen tissues or Western-Blotting

**CLONE:** Polyclonal

**Ig ISOTYPE:** IgG

**IMMUNOGEN:** Recombinant protein corresponding to the alpha thalassemia X-linked intellectual disability syndrome (ATR-X) subunit.

**SPECIES REACTIVITY:** In vitro diagnostics in humans. Not tested in other species

#### DESCRIPTION AND APPLICATIONS:

ATRX, also known as ATP-dependent helicase ATRX, X-linked helicase II, X-linked nuclear protein or Znf-HX, is encoded by a gene located in the chromosomal region Xq21.1, which undergoes an inactivation and encodes a nuclear and homologous NTP protein with several types of helicases II present at the membrane level. It belongs to the superfamily of proteins similar to the SNF2 subgroup and features a C-terminal region rich in glutamine similar to other nuclear transcription factors. Mutations of the gene cause a severe mental retardation syndrome linked to alpha-thalassemia (ATR-X syndrome) characterized by severe psychomotor retardation, characteristic facial features, urogenital abnormalities and alpha thalassemia with H hemoglobin inclusions at the erythrocyte level. Other syndromes related to mutations of the ATRX gene have been described such as X-linked mental retardation-hypotonic facies

syndrome or alpha thalassemia myelodysplastic syndrome. After interacting with the DAXX domain and potential binding with the EZH2, the ATRX protein plays several roles in mitosis, rearrangement of the chromatin and transcription as well as in the biology of the telomeric regions.

Studies on massive sequencing have shown that, along with isocitrate dehydrogenase 1 and 2 mutations, the ATRX mutations have been detected in the histogenesis of low-grade gliomas, apparently after facilitating alternative ways of enlargement of telomeric regions. The same study showed the presence of ATRX mutations only in IDH mutant tumors, related to p53 mutations and astrocytic differentiation, as well as mutually exclusive with the 1p/19q deletions, characteristic of oligodendrogliomas.

Studies on immunohistochemistry has proved that the ATRX is expressed in the brain tissue at the level of the cortical neurons, vascular endothelia or lymphocytes that can represent internal controls of immunostaining.

The loss of ATRX expression is a maker for astrocytic tumors, being absent in 45% cases of anaplastic glioma, 27% of anaplastic oligoastrocytomas and up to 10% of anaplastic astrocytomas. These results integrated with the survival of the patients against the presence of the IDH mutations and the 1p/19q deletions has allowed, regardless of the morphology of the tumor, separating two prognostic groups of astrocytic tumors, tumors with loss of ATRX expression, showing a better prognosis. Other findings have proved that most of the glioblastomas with loss of ATRX and without IDH mutations feature H3F3A mutation, whereas all patients with 1p/19q codeletion show one of the IDH1 or IDH2 mutations.

The integrated evaluation of TERT or ATRX expression in the 5 categories of brain tumors of the WHO classification of brain tumors of 2016 [(1) Oligodendroglioma, IDH-mutant and 1p/19q codeletion; (2) Astrocytoma, IDH-mutant; (3) Glioblastoma, IDH-mutant; (4) Glioblastoma, IDH-wildtype; and (5) Astrocytoma, IDH-wildtype] has proved its usefulness in the determination of the prognosis of these neoplasms.

**IHC POSITIVE CONTROL:** Tissue section from human brain.

**VISUALIZATION:** Nuclear

<sup>1</sup> 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.



**Vitro S.A.**

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#### 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 pH8<sup>2</sup> 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 30 minutes [The antibody dilution (when concentrated) and 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](http://www.vitro.bio) or can be requested at [regulatory@vitro.bio](mailto:regulatory@vitro.bio).

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<sup>2</sup> Ref: MAD-004072R/D



### 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