

SOX9 (EP317)

Rabbit anti-human SOX9 Antibody (Clon EP317)

References and presentations¹

- **ready-to-use (manual or LabVision AutoStainer)**
MAD-000775QD-3
MAD-000775QD-7
MAD-000775QD-12
- **Ready-to-use (MD-Stainer)²**
MAD-000775QD-3/V
MAD-000775QD/V
- **concentrated**
MAD-000775Q - 1:50 recommended dilution

Composition: anti-human SOX9 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: EP317³

Ig isotype: rabbit IgG

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

Description and applications:

SOX9 is a nuclear transcription factor involved in the differentiation of the chondrocytes and the skeleton as well as of sexual development. The factor is encoded by the gene with the same name located in the chromosome region 17q24.3. This gene encodes a peptide consisting of 509 amino acids containing a domain homologous to SRY.

The co-expression of the genes SOX9 and COL2A1 as well as the overexpression of the first, which is induced by the fibroblast growth factor of primordial chondrocytes, intervenes in the differentiation into mature chondrocytes. About the latter ones, SOX9 interacts additionally with the parathyroid hormone-

related protein (PTHrP) and helps in keeping its phenotype, inhibiting maturation of hypertrophic chondrocytes.

In the determination of the sex of the product of fertilization, SOX9 intervenes together with the steroidogenic factor 1 (SF-1), most probably through SRY gene, functioning as an essential factor in the differentiation of Sertoli cells. The transient activation of the SRY gene of the Y chromosome initializes a set of interactions leading to the formation of the testicle from the undifferentiated gonad; so SOX9 plays a crucial role in this pathway. In fact, the SOX9 gene is overexpressed during the activation of the SRY gene with transfer of its protein from a cytoplasmic to a nuclear location. In contrast, in the female gonad, the SOX9 gene is regulated downwards.

Other functions of the SOX9 gene have been related to skin pigmentation and somatic differentiation and maintenance.

Translocations affecting the SOX9 gene have been associated with campomelic dysplasia (CMPD) as well as autosomal sex reversal type 2 (SRXX2) and 10 (SRXX10).

In immunohistochemical studies of normal tissues, SOX9 has been detected in embryonic and adult epithelia of the hepatic bile ducts, duodenal crypts and pancreatic ducts.

In neoplasias, SOX9 has demonstrated its usefulness in differentiating mesenchymal chondrosarcoma from other round and small cell tumors, since both the mesenchymal and chondroid components of this tumor are SOX9 positive, while neuroblastomas, rhabdomyosarcomas, Ewing's sarcomas, desmoplastic round cell tumors, small cell carcinomas, Merkel carcinomas, small cell osteosarcomas, myxoid chondrosarcomas and lymphoid neoplasms have all been found to be negative.

Its diagnostic utility has also been demonstrated in the differential diagnosis of angiomatoid fibrous histiocytoma (AFH) with myofibroblastic and fibrohistiocytic neoplasms of similar histology. In one study, the antibody presented nuclear positivity in 85% of the AFH, approximately 4% of the dermatofibromas and in only one case of calcifying aponeurotic fibroma.

However, comparative studies have shown the limitation of the antibody in the diagnosis of chondroid neoplasms since, in addition to its positivity in high percentages of chondrosarcomas and synovial sarcomas, the antibody presented staining in cases of osteosarcomas and Ewing's sarcomas.

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



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This marker is also expressed in prostate carcinomas with TMPRSS2-ERG fusion and ERG nuclear overexpression, where it is associated with greater aggressiveness of the neoplasm.

The positivity in the normal pancreas, in intraductal papillary mucinous neoplasms and in pancreatic ductal adenocarcinomas confirms the lack of specificity of the antibody that should be used within a panel of other antibodies for the study of tumors where its use is indicated.

IHC positive control: Normal pancreas

Visualization: Nuclear

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 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.

⁴ Ref: MAD-004072R/D



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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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