

Rabbit anti-human SDHB Monoclonal Antibody (Clone EP288)

REFERENCES AND PRESENTATIONS¹

- ready-to-use (ml) MAD-000739QD–3 MAD-000739QD–7 MAD-000739QD–12
- MD-Stainer presentations² MAD-000739QD-3/V MAD-000739QD/V
- concentrated MAD-000739Q - 1:50 recommended dilution

COMPOSITION

Anti-human SDHB 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** To be immunohistochemistry (IHC) on paraffin embedded tissues. Not tested on frozen tissues or Western-Blotting **CLONE:** EP288³

Ig ISOTYPE: Rabbit IgG

IMMUNOGEN: A recombinant protein corresponding to human SDHB protein (Succinate dehydrogenase complex iron sulfur subunit B).

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

DESCRIPTION AND APPLICATIONS:

Succinate dehydrogenase (SDH) is Complex II in the mitochondria, vital for mitochondrial electron transport, as well as Krebs cycle function. SDH catalyzes the oxidation of succinate to fumarate and transfers electrons to ubiquinone through the coordination of its four subunits (SDHA, SDHB, SDHC, and SDHD). The SDH complex functions as a tumor suppressor. Loss of any subunit proteins lead to destabilization of the complex and tumor formation. SDH subunit B (SDHB) is ubiquitously expressed in normal tissues. Germline mutations in SDHB, SDHC, or predisposes SDHD genes development of phaeochromocytoma, paraganglioma and gastrointestinal stromal tumor (GIST). SDHB

Máster Diagnóstica S.L.

Avda. Conocimiento, 100. P.T. Ciencias de la Salud. 18016. Granada (España). Tel: +34 958 271 449. <u>master@vitro.bio</u> ; www.masterdiagnostica.com

immunohistochemistry is helpful in identification of phaeochromocytomas, paragangliomas or GIST with SDHB mutation.

IHC POSITIVE CONTROL: Normal tissues for positive staining control, SDHB mutated tissues to demonstrate the lack of staining

VISUALIZATION: Cell cytoplasm granular staining for SDHB non-mutated tissues, lack of staining for mutated once.

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 Master Diagnóstica 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 10 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: Up to 18 months; stored at 2-8°C. Do not freeze.

WARNINGS AND PRECAUTIONS:

 Avoid contact of reagents with eyes and mucous membranes. If reagents come into contact with sensitive areas, wash with copious amounts of water.
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

⁴ Ref: MAD-004072R/D





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 SDHB clone EP288 is manufactured using Epitomics's RabMAb® technology under U.S. Patent Nos. 5,675,063 and 7,402,409



downloaded by searching the reference number at <u>www.vitro.bio</u> or can be requested at <u>regulatory.md@vitro.bio</u>.

BIBLIOGRAPHY

1: Udager AM, Magers MJ, Goerke DM, Vinco ML, Siddiqui J, Cao X, Lucas DR, Myers JL, Chinnaiyan AM, McHugh JB, Giordano TJ, Else T, Mehra R. The utility of SDHB and FH immunohistochemistry in patients evaluated for hereditary paragangliomapheochromocytoma syndromes. Hum Pathol. 2018 Jan;71:47-54

2: Bernardo-Castiñeira C, Valdés N, Sierra MI, Sáenzde-Santa-María I, Bayón GF, Perez RF, Fernández AF, Fraga MF, Astudillo A, Menéndez R, Fernández B, Del Olmo M, Suarez C, Chiara MD. SDHC Promoter Methylation, a Novel Pathogenic Mechanism in Parasympathetic Paragangliomas. J Clin Endocrinol Metab. 2018 Jan 1;103(1):295-305.

3: Williamson SR, Hornick JL, Eble JN, Gupta NS, Rogers CG, True L, Grignon DJ, Cheng L. Renal Cell Carcinoma with Angioleiomyoma-Like Stroma and Clear Cell Papillary Renal Cell Carcinoma: Exploring SDHB Protein Immunohistochemistry and the Relationship to Tuberous Sclerosis Complex. Hum Pathol. 2017 Nov 24. pii: S0046-8177(17)30432-X.

4: Punsoni M, Mangray S, Lombardo KA, Heath N, Stopa EG, Yakirevich E. Succinate Dehydrogenase B (SDHB) Immunohistochemistry for the Evaluation of Muscle Biopsies. Appl Immunohistochem Mol Morphol. 2017 Oct;25(9):645-650.

5: Belinsky MG, Cai KQ, Zhou Y, Luo B, Pei J, Rink L, von Mehren M. Succinate dehydrogenase deficiency in a PDGFRA mutated GIST. BMC Cancer. 2017 Aug 2;17(1):512.

6: Carter CS, Skala SL, Chinnaiyan AM, McHugh JB, Siddiqui J, Cao X, Dhanasekaran SM, Fullen DR, Lagstein A, Chan MP, Mehra R. Immunohistochemical Characterization of Fumarate Hydratase (FH) and Succinate Dehydrogenase (SDH) in Cutaneous Leiomyomas for Detection of Familial Cancer Syndromes. Am J Surg Pathol. 2017 Jun;41(6):801-809.

7: Santi R, Rapizzi E, Canu L, Ercolino T, Baroni G, Fucci R, Costa G, Mannelli M, Nesi G. Potential Pitfalls of SDH Immunohistochemical Detection in Paragangliomas and Phaeochromocytomas Harbouring Germline SDHx Gene Mutation. Anticancer Res. 2017 Feb;37(2):805-812.

8: Guo Z, Lloyd RV. Use of monoclonal antibodies to detect specific mutations in formalin-fixed, paraffinembedded tissue sections. Hum Pathol. 2016 Jul;53:168-77.

9: Imamura H, Muroya K, Tanaka E, Konomoto T, Moritake H, Sato T, Kimura N, Takekoshi K, Nunoi H. Sporadic paraganglioma caused by de novo SDHB mutations in a 6-year-old girl. Eur J Pediatr. 2016 Jan;175(1):137-41.

10: Giubellino A, Lara K, Martucci V, Huynh T, Agarwal P, Pacak K, Merino MJ. Urinary Bladder Paragangliomas: How Immunohistochemistry Can Assist to Identify Patients With SDHB Germline and Somatic Mutations. Am J Surg Pathol. 2015 Nov;39(11):1488-92



Avda. Conocimiento, 100. P.T. Ciencias de la Salud. 18016. Granada (España). Tel: +34 958 271 449. <u>master@vitro.bio</u> ; www.masterdiagnostica.com

