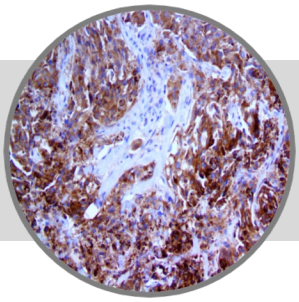
ROS1, RMab

Clone: EP282

Rabbit Monoclonal



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Inset: IHC of ROS1 on a FFPE Non-Small Cell Lung Cancer Tissue

Intended Use

Analyte Specific Reagent.

Analytical and performance characteristics for ROS-1 antibody, clone EP282, are not established.

Immunogen

Synthetic peptide corresponding to residues of human ROS1 protein

Summary and Explanation

Repressor of Silencing 1 (ROS1) is a receptor tyrosine kinase that undergoes genetic rearrangements in various human cancers and in humans is encoded by the ROS1 gene. The protein encoded by this gene is a type I integral membrane protein with tyrosine kinase activity with structural similarity to the anaplastic lymphoma kinase (ALK) protein. The protein may function as a growth or differentiation factor receptor. ROS1 expression is limited in normal tissues to occasional staining cerebellum, stomach, small intestine, colon and kidney.

Gene rearrangements involving the ROS1 gene were first detected in glioblastoma tumors and cell lines. ROS1 fusion partners include CD74, SLC34A2 and SDC4, leading to oncogenic transformation. ROS1 rearrangement was identified in a cell line derived from a lung adenocarcinoma patient and multiple studies have demonstrated its incidence in lung cancers. While ROS1 is undetectable in the normal lung, studies have described ROS1 rearrangements in 1-2% of NSCLC by FISH. Recent reports have demonstrated strong correlation between ROS1 IHC with FISH positivity. ROS1 fusions have been detected in multiple other tumors, including glioblastoma, non-small cell lung cancer (NSCLC), cholangiocarcinoma, ovarian cancer, gastric adenocarcinoma, colorectal cancer, inflammatory myofibroblastic tumor, angiosarcoma, and epithelioid hemangioendothelioma.

Antibody Type	Rabbit Monoclonal	**Clone**	EP282
Isotype	IgG	**Reactivity**	Paraffin, Frozen
Localization	Cytoplasmic	**Control**	Placenta, Lung, SiHa Cells, NSCL ROS1 +
	Species Reactivity	Human	

Presentation

ROS-1 is a rabbit monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Catalog No.	*Antibody Type*	*Dilution*	*Volume/Qty*
BSB 3623	Tinto Prediluted	Ready-to-Use	3.0 mL
BSB 3624	Tinto Prediluted	Ready-to-Use	7.0 mL
BSB 3625	Tinto Prediluted	Ready-to-Use	15.0 mL
BSB 3626	Concentrated	1:50 - 1:200	0.1 mL
BSB 3627	Concentrated	1:50 - 1:200	0.5 mL
BSB 3628	Concentrated	1:50 - 1:200	1.0 mL

Control Slides Available

Catalog No.	*Quantity*
BSB 3629	5 slides

Precautions

1. For professional users only. Results should be interpreted by a qualified medical professional.
2. This product contains <0.1% sodium azide (NaN_3) as a preservative. Ensure proper handling procedures are used with this reagent.
3. Always wear personal protective equipment such as laboratory coat, goggles and gloves when handling reagents.
4. Dispose of unused solution with copious amount of water.
5. Do not ingest reagent. If reagent is ingested, seek medical advice immediately.
6. Avoid contact with eyes. If contact occurs, flush with large quantities of water.
7. Follow safety precautions of the heating device used for epitope retrieval (TintoRetriever Pressure Cooker or similar).
8. For additional safety information refer to Safety Data Sheet for this product.
9. For complete recommendations for handling biological specimens, please refer to the CDC document, "Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories" (see References in this document).

Storage Store at 2-8°C (Control Slides: Store at 20-25°C)

Stability

This product is stable up to the expiration date on the product label. Do not use after expiration date listed on package label. Temperature fluctuations should be avoided. Store appropriately when not in use, and avoid prolonged exposure to room temperature conditions.

This Antibody has been quality control tested by immunohistochemistry as follows

Quality Control Procedure

Step	ImmunoDetector AP/HRP	PolyDetector AP/HRP	PolyDetector Plus HRP
Peroxidase/AP Blocker	5 min.	5 min.	5 min
Primary Antibody	30-60 min.	30-60 min.	30-60 min.
1st Step Detection	10 min.	30-45 min.	15 min.
2nd Step Detection	10 min.	Not Applicable	15 min.
Substrate-Chromogen	5-10 min.	5-10 min.	5-10 min.
Counterstain / Coverslip	Varies	Varies	Varies

Mounting Protocols

For detailed instructions using biodegradable permanent mounting media such as XyGreen PermaMounter (BSB 0169-0174) or organic solvent based resin such as PermaMounter (BSB 0094-0097), refer to PI0174 or PI0097.

Product Limitations

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a qualified medical professional.

References

1. "Entrez Gene: ROS1 v-ros UR2 sarcoma virus oncogene homolog 1 (avian)".
2. Rabin M, Birnbaum D, Young D, Birchmeier C, Wigler M, Ruddle FH . "Human ros1 and mas1 oncogenes located in regions of chromosome 6 associated with tumor-specific rearrangements". Oncogene Research.1987; 1 (2): 169–78.
3. Birchmeier C, Sharma S, Wigler M. "Expression and rearrangement of the ROS1 gene in human glioblastoma cells". Proceedings of the National Academy of Sciences of the United States of America. 1987; 84 (24): 9270–4.
4. Rikova K, et al. "Global survey of phosphotyrosine signaling identifies oncogenic kinases in lung cancer". Cell. 2007; 131 (6): 1190–203.
5. Davies KD, Doebele RC. "Molecular pathways: ROS1 fusion proteins in cancer". Clinical Cancer Research. 2013; 19 (15): 4040–5.
6. Sholl LM, et al. ROS1 immunohistochemistry for detection of ROS1-rearranged lung adenocarcinomas. Am J Surg Pathol. 2013 Sep;37(9):1441-9.
7. Luk P, et al. Biomarkers for ALK and ROS1 in Lung Cancer Immunohistochemistry and Fluorescent In Situ Hybridization. Arch Pathol Lab Med. 2018;142:922–928
8. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories. Supplement / Vol. 61, January 6, 2012.

Symbol Key / Légende des symboles/Erläuterung der Symbole

Storage Temperature Limites de température Zulässiger Temperaturbereich	Manufacturer Fabricant Hersteller	REF Catalog Number Référence du catalogue Bestellnummer
Read Instructions for Use Consulter les instructions d'utilisation Gebrauchsanweisung beachten	Expiration Date Utiliser jusque Verwendbar bis	LOT Lot Number Code du lot Chargenbezeichnung

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