Cell Control Array ROS1 (IHC)

REF / Cat. No.: MB-CC ROS1

Instructions for use

Intended use

The Cell Control Array ROS1 (IHC) block is designed for the qualitative control of immunochemical staining. It is intended to ensure a “Yes” or “NO” answer for immunohistochemical staining on formalin fixed paraffin embedded tissue. Furthermore, the Cell Control Array ROS1 (IHC) can be used for certain RT-PCR techniques. The array contains two ROS1 protein expressing cell lines and a ROS1 negative cell line.
It is intended for research use only.

Summary and Explanation

Most mature tissues do not express the ROS1 gene and therefore no ROS1 protein is produced. A rearrangement of the proto-oncogene gene can lead to an activation of the gene and to ROS1 protein expression. This has been shown to cause the formation of various tumors such as non-small cell lung carcinoma (NSCLC).
The Cell Control Array ROS1 (IHC) block serves as a positive control for the detection of ROS1 protein in these and other tissues. The Cell Control Array ROS1 (IHC) is a homogenous paraffin block including two ROS1 positive, one ROS1 negative cell line and one core of muscle tissue. The two positive ROS1 cell lines differ in the level of ROS1 expression. The ROS1 expression is weak and medium respectively.
The cell lines are homogenously embedded in the paraffin block.
The block serves as a general control for the detection of ROS1 protein using immunohistochemistry.
Immunostaining with ROS1 antibodies positively stain both ROS1 cell lines. The negative cell line shows no staining.
The Cell Control Array ROS1 can be used for the detection of mRNA of a CD74-ROS1 fusion using real-time PCR.
RNA should be extracted from sections having a total thickness of approximately 80 µm (e.g. 4 x 20 µm).
The cells were fixed in neutrally buffered formalin (pH 7) for 12-18 h and embedded in paraffin. The paraffin has a pink dye to facilitate cutting of sections and mounting. The core of heart muscle serves as an easy orientation. The small size of the control block sections allows for simultaneous mounting of patient material sections and control block sections on the same slide. Thus, you will have an on-slide control array staining (OSCAR) proving a regular stain even after years of storage.

Reagents provided

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1 Block **Cell Control Array ROS1 (IHC)**

Storage and handling

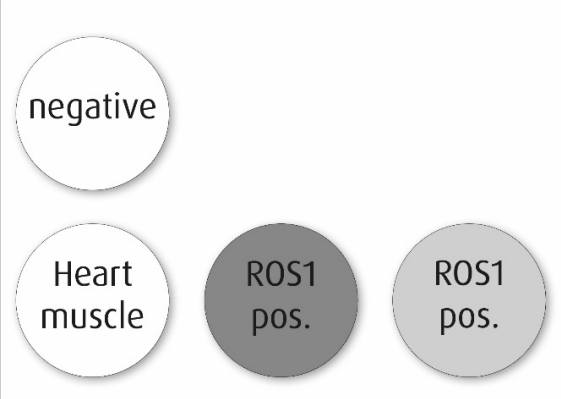
The block should be stored in a dry place at room temperature within the provided box. Avoid freezing below -15° as the block may crack. Please insert the block in the microtome with caution because otherwise it may crack as well.
The sections (3-5 µm) should be mounted on adhesive slides and dried at 37°C overnight or for 2 h at 65°C.
Provided that the block is regularly cut, one block is good for at least 130-170 sections; up to 400 are possible. The number of sections depends on the frequency of cutting and the thickness of the sections. We suggest using freshly prepared sections in order to avoid unnecessary aging.
The cell line cores are covered with a thin paraffin layer due to production technique. As soon as the paraffin layer is cut away at all cell line cores the sections are ready for use.
Each cell line core is at least 2 mm high and can differ slightly in length from array to array. One core of heart muscle tissue is included in the block to facilitate orientation during mounting and microscopy.

Precautions

Use by qualified personnel only.
Health hazards should not be expected. However, the block should be handled as potential infectious formalin fixed paraffin embedded human tissue. Wear proper protection clothing.
A Material safety data sheet (MSDS) is available upon request.

Expected results

The orientation of the different cores of the Cell Control Array ROS1 (IHC) is shown in the picture. The ROS1 positive cell lines differ in their expression levels of ROS1 protein. The ROS1 expression in these cell lines is weak and medium respectively. Not all cells express ROS1 at the same level. Therefore immunohistochemistry can show different staining intensities in different cells. Depending on the sensitivity of the immunohistochemical staining, few cells may show no staining.
In general, the block is suited as a positive control for ROS1 immunohistochemistry on lung tissue as well as other tissue. The staining is cytoplasmic and granular in most cases.
It should be noted that weak ROS1 expression occurs in some non-neoplastic hyperplastic type II pneumocytes and in alveolar macrophages. In bone metastases, osteoclastic giant cells often show a strong granular cytoplasmic staining.



Troubleshooting

If you observe unusual staining or other deviations from the expected results which could possibly be caused by the product, please read these instructions carefully, contact Zytomed Systems' technical support or your local distributor.

Limitations of the procedure

A large number of factors can considerably influence the immunohistochemical staining of the MB-CC ROS1. The reagents employed, like the antibody and the pre-treatment buffer (Citrate or Tris-EDTA buffer) have to be selected carefully. Especially the sensitivity of the chosen detection system, and the chromogenic substrate will influence the staining intensity. It is always recommended to use a control block section in combination with ROS1 positive tumor material of various expression levels to establish IHC reagents and dilution factors of antibodies. Furthermore, thickness of tissue sections, temperature during drying process and the hematoxylin used, can influence staining intensity. Zytomed Systems guarantees that the product will meet all requirements described from its shipping date until its expiry date, as long as the product is correctly stored and utilized. No additional guarantees can be given. Under no circumstances shall Zytomed System be liable for any damages arising out of the use of the reagent provided.

Performance characteristics

Zytomed Systems has conducted studies to evaluate the performance of the product. The product has been found to be suitable for the intended use.

References

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Nadji M, Morales AR. Ann N Y Acad Sci 420:134-138, (1983)

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1. Explanations of the symbols on the product label

Symbols are used in accordance with ISO 15223-1. Further symbols on the product label might be:

GSH02: Flammable

GSH08: Systemic health hazards

GSH07: Attention / Warning

GSH05: Caustic

RUO For Research Use Only