

Anti-CA 72.4 (Clone: CC49)

Mouse monoclonal antibody
Reference: AP10059; AP10059C



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INTENDED USE AND PRESENTATION:

For *in vitro* diagnostic use.

AP10059, 7 ml. Prediluted antibodies in a synthetic organic linear polymer buffer solution (pH 7.4), with carrier protein and preservative for stabilisation "READY TO USE"

AP10059C, 1 ml. Concentrated antibodies with carrier protein and preservative for stabilisation.

SUMMARY, EXPLANATION AND LIMITATIONS:

CA 72.4 or Tumor-associated glycoprotein 72 (TAG-72) is a high molecular weight glycoprotein that localizes to the cytoplasm and cell membrane of malignant cells. TAG-72 is expressed by 80% of colorectal carcinomas but is rarely expressed in normal epithelium and benign diseases. In addition, CA 72.4 is highly expressed by low-grade mucoepidermoid carcinomas but is absent in pure squamous cell mucoepidermoid carcinomas. With the exception of secretory endometrium, CA 72.4 expression is weak or nondetectable in normal adult tissues. is expressed by several gynecologic malignancies including common epithelial ovarian carcinomas and endometrial carcinomas. In human prostatic adenocarcinomas, CA 72.4 expression negatively correlates with the Gleason grade of differentiation. CA 72.4 is expressed by the majority of gastric, esophageal, pancreatic and non-small cell lung carcinomas. Finally, CA 72.4 is useful for purifying primary ovarian cancer cells from patient ascites.

Immunohistochemistry (IHC) is a complex technique in which immunological and histological detection methods are combined. In general, the manipulation and processing of tissues before immunostaining, especially different types of tissue fixation and embedding, as well as the nature of the tissues themselves may cause inconsistent results (Nadji and Morales, 1983). Endogenous pseudoperoxidase and peroxidase activity or endogenous biotin and alkaline phosphatase activity can cause non-specific staining results depending on the detection system used. Tissues that contain Hepatitis B surface antigen (HBsAg) can produce false positives when using HRP detection systems (Omata et al, 1980). Insufficient contrast staining and/or improper mounting of the sample may influence the interpretation of results.

Isotype: IgG1

Immunogen: Purified human CA 72.4 protein.

Staining pattern: Cell surface and cytoplasmic

The interpretation of the stain results is the full responsibility of the user. Any experimental result must be confirmed by a medically established diagnostic product or procedure.

Positive control: Tissue sample from colon carcinoma, breast carcinoma or lung carcinoma.

External negative control: Tissue sample homologous to the test sample incubated with an antibody isotype not specific for CA 72.4.

APPLICATIONS:

This antibody is designed for the specific localization of human calcitonin using IHC techniques in formalin-fixed, paraffin-embedded tissue sections.

Positive immunoreactivity was observed for adenocarcinomas from breast (85% of infiltrating ductal carcinomas), colon (85-90%), pancreas, stomach, esophagus, salivary glands (duct epithelial carcinomas, adenocarcinomas, papillary cystadenocarcinomas, low-grade mucoepidermoid carcinomas), ovary, endometrium, and lung (except small cell carcinomas). TAG-72 antigen is not expressed in leukemias, lymphomas, sarcomas, mesotheliomas and melanomas. In normal tissues from the above organs show slight or absent immunostaining except in proliferative phase endometrium, salivary gland epithelium and the colonic epithelium. In case of differential diagnosis between metastatic adenocarcinoma pleural and primary mesothelioma is recommended to include this antibody to immunohistochemical panel, because the positive immunostaining for CA 72.4 strongly suggests the first possibility and the second if is negative. In breast carcinoma the expression of TAG-72 is shown with prognostic value. Tumors with metastases to regional lymph nodes are negative for TAG-72 and clinically have more aggressive behavior.

PRODUCT COMPOSITION:

Mouse immunoglobulin IgG1, clone CC49, obtained from culture supernatant. The preparation contains saline buffer, stabilising and carriers proteins, and sodium azide as a preservative.

METHODS AND PROCEDURE:

Principles of the procedure: The demonstrations of antigens by IHC is a sequential procedure with several steps involving first the application of a specific antibody for the antigen of interest (primary antibody), then a secondary antibody which joins to the first, an enzyme complex, and the addition of a chromogenic substrate. The sample is washed between each step. Enzymatic activation of the chromogenic substrate creates a visible product where the antigen is located. The results are interpreted using a light microscope. The primary antibody can be used both in manual IHC and with automated immunostainers.

Specimen: Paraffin-embedded tissue samples should be used. Western blot techniques are not recommended.

Staining procedure:

Antigen retrieval	HIER EDTA Buffer pH 8.0
Working dilution (only for concentrates)	1:10 – 1:50
Incubation	60 min; RT
Control Tissue	Colon carcinoma, breast carcinoma, lung carcinoma

Amplification and development of the immunostaining:

Follow standard procedure and the recommendations given by the manufacturer for the materials used. In the case of

REF Catalog number

LOT Batch code

IVD In Vitro diagnostic medical device

Temperature limitation

Expiration date

Manufacturer

See instruction for use



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using automated immunostainers, use the specified buffers and materials for each instrument.

See our web site at www.genova-europe.com for detailed protocols ancillary reagents and support products.

REQUIRED MATERIALS BUT NOT SUPPLIED:

All reagents, materials, and laboratory equipment for IHC procedures are not provided with this antibody. This includes adhesive slides and cover slips, positive and negative control tissues, Xylene or adequate substitute, ethanol, distilled H₂O, heat pretreatment equipment (pressure cooker, steamer, microwave), pipettes, Coplin jars, glass jars, moist chamber, histological baths, negative control reagents, counter-staining solution, mounting materials, and microscope.

Buffered solutions for antigen retrieval, enzyme treatments, highly sensitive detection systems, and other auxiliary reagents are available from Genova Scientific.

STORAGE AND STABILITY:

Store at 2-8 °C until the expiration date printed on product label. Do not use after the expiration date. If fresh solutions are required, these must be prepared immediately prior to use, and will be stable for at least one day at room temperature (20-25°C). Unused portion of antibody preparation should be discarded after one day. If the product is stored under different conditions from those stipulated in these technical indications, the new conditions must be verified by the user. The validity period of the ready to use products when opened, is the same as the expiration date indicated on the label of intact product.

Genova Scientific guarantees that the product will maintain all of the described characteristics from the production date until the expiration date, as long as the product is stored and used as recommended. No other guarantees are provided. Under no circumstances is Genova Scientific obliged to cover damages caused by use of this reagent.

TROUBLESHOOTING:

If unusual staining is observed or any other deviations from the expected results, please read these instructions carefully, along with the instructions from the detection system. If this does not solve the problem, please contact Genova Scientific's technical support department or your local distributor.

PRECAUTIONS:

Use only by qualified personnel.

Use proper protective equipment in order to avoid contact with reagents and samples in the eyes, skin, and mucosal tissues. In case of contact with sensitive areas, immediately flush the affected area with water. Avoid microbial contamination of the reagent, as this may produce nonspecific staining results. This antibody contains sodium azide (NaN₃), used as a stabilising agent, which is not considered to be a hazardous material in the concentration

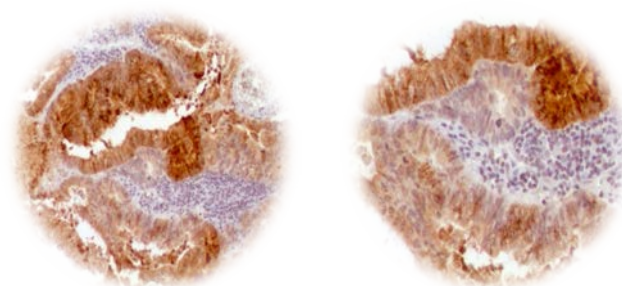
used. Concentration of sodium azide in drainage pipes made of lead or copper can cause the formation of highly explosive metallic azides. In order to avoid this, sodium azide must be disposed of along with a large volume of running water. Material safety data sheet (MSDS) for pure sodium azide is available upon request.

PERFORMANCE CHARACTERISTICS:

Genova Scientific has performed studies to evaluate the functioning of these antibodies for use with standard detection systems, concluding that the product is both specific and sensitive for the antigen of interest.

BIBLIOGRAPHY:

Stramignoni, D. et al. Differential reactivity of monoclonal antibodies with human colon adenocarcinomas and adenomas. *Int J Cancer*; 3543-52 (1983).
Molinolo, A. et al. Enhanced tumor binding using immunohistochemical analyses by second generation anti-tumor-associated glycoprotein 72 monoclonal antibodies versus monoclonal antibody B72.3 in human tissue. *Cancer Res* 50:1291-8(1990).
Sheer, D.G. et al. Purification and composition of the human tumor-associated glycoprotein (TAG-72) defined by monoclonal antibodies CC49 and B72.3. *Cancer Res.* 48:6811-6818 (1988).
Nadji M, Morales AR. Immunoperoxidase, part 1: the techniques and its pitfall. *Lab Med* 1983; 14:767-770.
Omata M, Liew CT, Ashcavai M, Peters RI. Nonimmunologic binding of horseradish peroxidase to hepatitis B surface antigen. A possible source of error in immunohistochemistry. *Am J Clin Pathol.* May, 1980;73(5):626-632.



10 ×

20 ×

IHC of CA 72.4 (clone CC49) on FFPE colon adenocarcinoma tissue.

EDTA pH 8.0; DAB; Hematoxylin

F01IT04_V2R0112_AP10059_English

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Temperature limitation

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See instruction for use



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