

Napsin A (RM)

Concentrated and Prediluted Rabbit Monoclonal Antibody

Control Number: 902-3043-090917

Catalog Number:	ACR 3043 A, C	APR 3043 AA
Description:	0.1, 1.0 ml, concentrated	6.0 ml prediluted
Dilution:	1:100 – 1:200	Ready-to-use
Diluent:	Renoir Red	N/A

Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:

Napsin A is a pepsin-like aspartic proteinase. It is expressed in type II pneumocytes and in most lung adenocarcinomas and some renal cell carcinomas. Studies have shown that Napsin A is a more sensitive and specific marker than TTF-1 and is extremely specific for lung adenocarcinomas (1-6). Most studies show Napsin A is highly specific for lung adenocarcinoma versus lung SqCC (1-4).

Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, an enzyme labeled polymer is added to bind to the primary antibody. The detection of the bound antibody is evidenced by a colorimetric reaction.

Source: Rabbit monoclonal

Species Reactivity: Human, mouse, rat, dog and sheep

Clone: BC15

Isotype: Rabbit IgG

Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig concentration

Epitope/Antigen: Napsin A

Cellular Localization: Cytoplasmic (granular)

Positive Tissue Control: Lung adenocarcinoma

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative

Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

Staining Protocol Recommendations:

Peroxide Block:

Block for 5 minutes with Biocare's Peroxidized 1.

Pretreatment: Perform heat retrieval using Biocare's Diva Decloaker. Refer to the Diva Decloaker product data sheet for specific instructions.

Protein Block (Optional): Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

Primary Antibody: Incubate for 30 minutes at RT.

Probe: N/A

Polymer: Incubate for 30 minutes at RT with a secondary-conjugated polymer.

Chromogen:

Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Biocare's Warp Red.

Counterstain: Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:

This antibody has been standardized with Biocare's MACH 4 detection system. It can also be used on an automated staining system and with other Biocare polymer detection kits. Use TBS buffer for washing steps.

Performance Characteristics:

Sensitivity and specificity testing of Napsin A [BC15] was performed by staining with MACH 4 Universal HRP-Polymer Detection. See Tables 1 and 2 for expected results.

Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN₃) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (6)

2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (7)

3. Microbial contamination of reagents may result in an increase in nonspecific staining.

4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.

5. Do not use reagent after the expiration date printed on the vial.

6. The MSDS is available upon request and is located at <http://biocare.net/support/msds/>.

Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

References:

1. Mukhopadhyay S, Katzenstein AL. Subclassification of non-small cell lung carcinomas lacking morphologic differentiation on biopsy specimens: Utility of an immunohistochemical panel containing TTF-1, napsin A, p63, and CK5/6. *Am J Surg Pathol.* 2011 Jan; 35(1):15-25.

2. Bishop JA, Sharma R, Illei PB. Napsin A and thyroid transcription factor-1 expression in carcinomas of the lung, breast, pancreas, colon, kidney, thyroid, and malignant mesothelioma. *Hum Pathol.* 2010 Jan; 41(1):20-5. Epub 2009 Sep 8.

3. Jagirdar J. Application of immunohistochemistry to the diagnosis of primary and metastatic carcinoma to the lung. *Arch Pathol Lab Med.* 2008 Mar; 132(3):384-96.

4. Dejmek A, et al. Napsin A (TA02) is a useful alternative to thyroid transcription factor-1 (TTF-1) for the identification of pulmonary adenocarcinoma cells in pleural effusions. *Diagn Cytopathol.* 2007 Aug; 35(8):493-7.

5. Suzuki A, et al. Napsin A is useful to distinguish primary lung adenocarcinoma from adenocarcinomas of other organs. *Pathol Res Pract.* 2005; 201(8-9):579-86.

6. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."

7. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory workers from occupationally Acquired Infections; Approved guideline-Third Edition CLSI document M29-A3 Wayne, PA 2005.

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Table 1: Sensitivity of rabbit monoclonal antibody Napsin A (RM) [BC15] was determined by testing formalin-fixed, paraffin-embedded neoplastic tissues.

Cancer Type	Positive	Negative	% (+)
Lung adenocarcinoma	55	11	83.3%
Lung SqCC	0	21	0.0%
Prostate cancer	0	15	0.0%
Bladder cancer	0	11	0.0%
Renal cancer	0	11	0.0%
Colon cancer	0	36	0.0%
Breast cancer	0	16	0.0%
Ovarian cancer	0	1	0.0%
Glioblastoma	0	1	0.0%
GIST	0	1	0.0%
Melanoma	0	1	0.0%
Rhabdomyosarcoma	0	1	0.0%
Melanoma	0	1	0.0%
Leiomyosarcoma	0	1	0.0%
Seminoma	0	1	0.0%

Table 2: Specificity of rabbit monoclonal antibody Napsin A (RM) [BC15] was determined by testing formalin-fixed, paraffin-embedded normal tissues.

Normal Organ Tissue	Positive	Negative	% (+)
Normal Kidney	11	0	100.0%
Liver	0	1	0.0%
Cerebellum	0	1	0.0%
Pituitary	0	1	0.0%
Adrenal gland	0	1	0.0%
Thymus	0	1	0.0%
Thyroid	0	1	0.0%
Tonsil	0	1	0.0%
Ovary	0	1	0.0%
Uterus	0	1	0.0%
Smooth muscle	0	1	0.0%
Fallopian tube	0	1	0.0%
Placenta	0	1	0.0%
Bladder	0	1	0.0%
Urethra	0	1	0.0%
Breast	0	1	0.0%
Prostate	0	1	0.0%
Testis	0	1	0.0%
Heart	0	1	0.0%