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TTF-1

Concentrated Monoclonal Antibody

Cat.#CM087A:0.1ml, Cat.#CM087B:0.5ml, Cat.#CM087C:1.0ml

Specificity and Comments

TTF-1 recognizes a protein of 40kDa, identified as Thyroid transcription factor -1 (TTF -1). TTF -1 is a member of the NKx2 family of homeodomain transcription factors. It is expressed in epithelial cells of the thyroid gland and the lung. Nuclei from liver, stomach, pancreas, small intestine, colon, kidney, breast, skin, testes, pituitary, prostate and adrenal glands are not reactive. TTF -1 is detected in primary lung adenocarcinomas and small cell carcinomas, and is absent in mesotheliomas, colon cancer and breast cancer. TTF-1 can be very useful when used in panel with antibodies CK7, CK20, Villin and CA1 25.

Species Reactivity: Human, mouse and rat.

Known Applications: Immunohistochemistry (formalin -fixed paraffin-embedded tissues).

Clone: Clone 8G7G3/1.

Isotype: IgG₁

Immunogen: Rat TTF -1 recombinant protein.

Control: Lung/adenocarcinoma or thyroid.

Cellular Localization: Nuclear.

Supplied As:

Tissue culture supernatant with 15mM sodium azide.

Storage and Stability:

Store vial at 4°C. Stable for 18 months.

Protocol Recommendations:

Endogenous Peroxidase Block

If using an HRP system, block for 5 minutes with BIOCARE'S PEROXIDASE 1.

Pretreatment (Required)

Gently boil tissue sections (100 °C) for 20 minutes in BORG DECKLOAKER or NUCLEAR DECKLOAKER. Allow the solution to cool for 20 minutes. If citrate buffer, pH 6.0, is substituted, incubation times must be increased.

Alternatively, steam tissue sections for 30 -45 minutes, or use a pressure cooker for 2 -3 minutes (BIOCARE'S Decloaking Chamber).

Protein Block

Incubate for 5 minutes at room temperature (RT) with BIOCARE'S BACKGROUND ERASER.

Primary Antibody

Dilute 1:50 -1:100 in BIOCARE'S Van Gogh Yellow Antibody Diluent. Incubate for 30 -60 minutes.

Biotinylated Secondary Antibody

Incubate for 10 minutes at RT with BIOCARE'S 4plus Detection System.

Enzyme Labeled Streptavidin

Incubate for 10 minutes at RT with BIOCARE'S 4plus Detection System.

Chromogen

Incubate for 5 minutes at RT with BIOCARE'S CHROMOGEN CARE.

Technical Note

TTF-1 is a nuclear stain. Overstaining with hematoxylin can mask nuclear staining, thus reducing overall contrast and making interpretation difficult. It is recommended that a light hematoxylin stain be applied (15 to 30 seconds with Tacha's Hematoxylin).

Protocol Notes

The optimum antibody dilution and protocols for a specific application can vary due to many factors. These include, but are not limited to: fixation, incubation times, tissue section thickness and detection kit used. The data sheet's recommendations and protocols are based on exclusive use of BIOCARE products. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are *not* applicable to other detection systems, as results may vary. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

Limitations and Warranty

This antibody is available for research use only. Not approved for use in humans or in clinical diagnosis. There are no warranties, expressed or implied, which extend beyond this description.

BIOCARE is not liable for property damage, personal injury, or economic loss caused by this product.

References:

1. Di Loreto C et al. TTF-1 protein expression in pleural malignant mesotheliomas and adenocarcinomas of the lung. *Cancer Lett* 1998 Feb 13; 124(1):73-78.
2. Di Loreto C et al. Immunocytochemical expression of tissue specific transcription factor-1 in lung carcinoma. *J Clin Pathol* 1997 Jan; 50(1):30-32.
3. Stahlman MT, Gray ME, Whitsett JA. Expression of thyroid transcription factor-1 (TTF-1) in fetal and neonatal human lung. *J Histochem Cytochem* 1996 Jul; 44(7):673-678.
4. Bejarano PA et al. Surfactant proteins and thyroid transcription factor-1 in pulmonary and breast carcinomas. *Mod Pathol* 1996 Apr; 9(4):445-452.
5. Fabbro D et al. TTF-1 gene expression in human lung tumours. *Eur J Cancer* 1996 Mar; 32A(3):512-517.
6. Holzinger A et al. Monoclonal antibody to thyroid transcription factor-1: production, characterization, and usefulness in tumor diagnosis. *Hybridoma* 1996 Feb; 15(1):49-53.
7. Zannini M et al. TTF-2: a new forkhead protein, shows a temporal expression in the developing thyroid which is consistent with a role in controlling the onset of differentiation. *EMBO J* 1997 Jun 2; 16(11):3185-3197.

BIOCARE Products

Catalog #	Size	Product	Description
BD100M	500ml	BORG DECLOAKER	10X citrate buffer solution that decloaks or un.masks epitopes crosslinked with formalin. 10X Tris buffer solution for nuclear antigens
CB911M	500ml	NUCLEAR DECLOAKER	
PD900L	100ml	VanGogh Yellow] (Primary antibody diluent)	A superior diluent that increases titers up to 2-4 times (color-coded with pH indicator)
BE965H	25ml	BACKGROUND ERASER	Blocking serum
BE965M	500ml		
HP504UR	50ml	4plus HRP500 Universal	Universal Horseradish Peroxidase Detection System
AC800P	25ml	AEC250 Chromogen Pack	AEC - Liquid, two -component
DB801R	50ml	DAB500 Chromogen Pack	DAB - Liquid, two -component
DC2000	1 each	Decloaking Chamber	Electric Pressure Cooker for heat retrieval methods (superior to microwave methods)