



## Wilms' Tumor (WT1) Monoclonal Mouse Anti-WT1 Clone 6F-H2

**REF** 014-1071

**Ready-To-Use** ■ 100 Tests / 50 Tests

**Concentrate** ■ 1mL

### INTENDED USE

**IVD** For in vitro diagnostic use.

Celerus monoclonal mouse anti-WT1, clone 6F-H2, is intended for laboratory use in identifying Wilms' Tumor Protein (WT1) in normal or neoplastic tissue using light microscopy. It may be used with frozen or formalin-fixed paraffin-embedded tissue.

Positive results aid in the classification of normal and abnormal cells / tissues and serve as an adjunct to conventional histopathology. The clinical interpretation of any positive staining or its absence should be complemented by morphological and histological studies with proper controls. Evaluations should be made by a qualified individual in conjunction with the patient's clinical history and other diagnostic test results.

Refer to the Wave Instrument Operator's Manual for additional information concerning Materials Required but Not Provided; Storage; Staining Procedure; Troubleshooting; Interpretation of Staining; and General Limitations.

### SUMMARY AND EXPLANATION

Wilms' tumor is a neoplasm of the kidney that typically occurs in children. Wilms' Tumor Protein (WT1) is a suppressor gene and has been identified in Wilms' tumor and some mesothelial cell proliferations including malignant mesothelioma.

### PRINCIPLE OF PROCEDURE

Immunohistochemistry is a multi-step process to identify specific cell markers within tissue biopsies or tumor specimens. The sequential steps include antigen retrieval (optional), antibody application, and antibody visualization followed by optional counterstaining. Specimens are then coverslipped and observed under light microscopy by trained personnel. Normally, multiple antibodies are tested to determine lineage and cell cycle markers. The Celerus Wave is an automated instrument that performs immunohistochemistry stains. For further information on the staining procedure, refer to the Celerus Wave Operator's Manual.

### MATERIALS AND METHODS

#### Reagent Provided

Clone  
6F-H2

Ig Class  
IgG<sub>1</sub>, kappa

#### Immunogen

Truncated human WT1 protein corresponding to N-terminal amino acids 1–181.

#### Ready-To-Use in Primary Antibody Cartridge

Celerus anti-WT1 is provided with ProClin 300 as a preservative, in a Primary Antibody Cartridge (PAC), a self-contained dispenser of reagents. Each PAC contains sufficient reagent to complete 100 stained slides. PACs must remain upright to avoid spilling. PAC must be primed before first use. See Celerus Wave Operator's Manual for details.

### Concentrated Antibody

#### Liquid

Liquid concentrated antibody is provided containing 15 mM sodium azide as a preservative and 1% bovine serum albumin as a carrier protein.

#### Lyophilized

Lyophilized antibody is provided containing 15mM sodium azide as a preservative. Reconstitute vial with 1.0 ml distilled water.

#### Dilution

The suggested dilution is 1:40–1:80. This is a guide only and users should determine their own optimal working dilutions.

### SPECIFICITY

An epitope found in the N-terminal 84 amino acids of WT1. Anti-WT1 reacts with all isoforms of the full-length WT1 and also identifies WT1 lacking exon 2, frequently found in subsets of sporadic Wilms' tumors.

### MATERIALS REQUIRED BUT NOT PROVIDED

1. Wave instrument
2. Wave slide rack
3. Positively-charged microscope slides, appropriately labeled
4. Timer
5. Celerus Riptide for antigen retrieval (or equivalent)
6. Celerus Target Retrieval Solution (or equivalent)
7. Slide drying chamber
8. Xylene or xylene substitute
9. Reagent alcohol or ethyl alcohol
10. Distilled or deionized water
11. TBS wash buffer, pH 7.6
12. Positive and negative tissue controls
13. Celerus Negative Control Reagent (or equivalent)
14. Mounting Medium
15. Cover slips

### STORAGE AND HANDLING

#### Ready-to-Use PAC, Liquid Concentrated and Lyophilized Antibody

Store reagent at 2–8 °C. Do not freeze. The reagent is stable until the expiration date on the container. Do not use reagent after the expiration date, as the activity cannot be ensured.

#### Reconstituted Antibody

For reconstituted antibody, the reagent is stable for at least two months when stored at 4 °C. For long-term storage it is recommended that aliquots of the antibody be stored at –20 °C. Repeated freezing and thawing of the antibody should be avoided.

There are no signs to indicate instability of this reagent. To ensure a valid staining assay, the use of positive and negative tissue controls is recommended. Contact your Celerus representative if there are stability concerns prior to the expiration date.

### PRECAUTIONS

1. For professional users.
2. Minimize microbial contamination of reagents or an increase in nonspecific staining may occur.
3. As with any product derived from biological sources, proper handling procedures should be used.
4. A Material Safety Data Sheet is available for professional users on request.

5. ProClin 300 is classified per applicable European Community (EC) Directives as: Irritant (Xi). The following are the appropriate Risk (R) and Safety (S) phrases.



- R36** Irritating to eyes  
**R43** May cause sensitization by skin contact  
**S24** Avoid contact with skin  
**S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
**S35** This material and its container must be disposed of in a safe way  
**S37/39** Wear suitable gloves and eye/face protection  
**S46** If swallowed, seek medical advice immediately and show this container or label.

### WASTE DISPOSAL

Adhere to all local laws when disposing of the PAC.

### PACKAGING DAMAGE

DO NOT USE a PAC if it is leaking, has leaked, has spilled, cannot be primed, or has visually apparent physical damage.

### SPECIMEN COLLECTION AND HANDLING

Formalin-fixed paraffin embedded (FFPE) tissues, frozen tissues, or smears are suitable for use. Wave detection kits have been optimized for tissues fixed with 10% formalin. Ideally, each 4–6µ tissue section should be placed on charged slides on the lower 2/3 of the slide. Very large sections should be placed 1/4 inch below the lower end of the slide label.

Slides should be baked overnight at 37 °C, or at 60 °C for one hour.

Use standard histochemical techniques to deparaffinize processed slides. For uniformity of staining results, it is recommended that target retrieval be performed using the Celerus Riptide and Celerus Target Retrieval Solution (or equivalent) at 112 °C for 5 minutes. Avoid drying of the tissue specimen during this process. After all slides to be stained have been inserted and reagents mounted on the instrument, start the staining run.

When the slides have completed the staining run, remove them from the instrument, coverslip, and view under light microscopy.

### PRODUCT-SPECIFIC LIMITATIONS

Anti-WT1 antibody, when used on the Wave instrument, detects antigens that survive routine formalin fixation, tissue processing, and sectioning. Users who deviate from recommended test procedures are responsible for interpretation and validation of patient results.

### RESULTS EXPECTED /

### PERFORMANCE CHARACTERISTICS

#### Normal Tissues

WT1 is strongly expressed in mesenchymally derived tissue. During embryonic development, WT1 expression has been observed in human kidney, spleen, and gonadal ridge mesoderm and the mesothelial lining of the coelomic cavity and the organs contained within.

#### Abnormal Tissues

High levels of WT1 expression have been demonstrated in the epithelial and blastemal components of Wilms' tumors, whereas stromal elements were found to be expressed at very low levels. The WT1 protein was stained within the nuclei of malignant mesothelioma cells. In addition to specific nuclear immunoreactivity, anti-WT1 have been reported to stain the cytoplasm of tumor cells in some cases of adenocarcinoma and the desmoplastic stroma and basement membrane of some carcinoma specimens.

### REFERENCES

- Rauscher JF, Morris JF, Fredericks WJ, Lopez-Guisa J, Balakrishnan C, Jost M, Herlyn M, Rodeck U. Characterization of monoclonal antibodies directed to the amino-terminus of the WT1, Wilms; tumor suppressor protein. *Hybridoma*; 17:191, (1998).
- Menssen HD, et al. Presence of Wilms' tumor (wt1) transcripts and the WT1 nuclear protein in the majority of human acute leukemias. *Leukemia*; 9:1060, (1995).
- Coppes MJ, et al. The role of WT1 in Wilms tumorigenesis. *FASEB J*; 7:886, (1993).
- Haber DA and Buckler AJ. WT1: A novel tumor suppressor gene inactivated in Wilms' tumor. *New Biol*; 4(2):97, (1992).
- Rauscher FJ. The WT1 Wilms tumor gene product: A developmentally regulated transcription factor in the kidney that functions as a tumor suppressor. *FASEB J*; 7:896, (1993).
- Amin KM, et al. Wilms' tumor 1 susceptibility (WT1) gene products are selectively expressed in malignant mesothelioma. *Amer J Pathol*; 146(2):344, (1995).
- Varansi R, et al. Fine structure analysis of the WT1 gene in sporadic Wilms tumors. *Proc Natl Acad Sci USA*; 91:3554, (1994).
- Bruening W, et al. Analysis of the 11p13 Wilms' tumor suppressor gene (WT1) in ovarian tumors. *Canc Invest*; 11(4):393, (1993).
- Rodeck U, et al. Expression of the WT1 Wilms' tumor gene by normal and malignant human melanocytes. *Int J Canc*; 59:78, (1994).
- Coppes MJ, et al. Analysis of WT1 in granulosa cell and other sex cord-stromal tumors. *Canc Res*; 53:2712, (1993).



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