

Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2]

Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) is a rabbit monoclonal antibody detecting Wilms Tumor Protein in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 250 publications
- Trusted since 2010

Recombinant

RabMAb

KO Validated

20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	CAN-R9(IHC)-56-2
Purification technique	Affinity purification Protein A
Specificity	Expression levels of the target protein vary with sample type and some optimisation may be required.
Concentration	0.217 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/300
Notes	For unpurified use at 1/30. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Not recommended

Species	Mouse, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/500 - 1/1000
Notes	For unpurified use at 1/100.

Species	Human
Dilution info	1/500 - 1/1000
Notes	For unpurified use at 1/100.

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	For unpurified use at 1/5.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	For unpurified use at 1/3. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

[See full target information WT1](#) [↗](#)

Function

Transcription factor that plays an important role in cellular development and cell survival (PubMed:7862533). Recognizes and binds to the DNA sequence 5'-GCG(T/G)GGGCG-3' (PubMed:17716689, PubMed:25258363, PubMed:7862533). Regulates the expression of numerous target genes, including EPO. Plays an essential role for development of the urogenital system. It has a tumor suppressor as well as an oncogenic role in tumor formation. Function may be isoform-specific: isoforms lacking the KTS motif may act as transcription factors (PubMed:15520190). Isoforms containing the KTS motif may bind mRNA and play a

role in mRNA metabolism or splicing (PubMed:16934801). Isoform 1 has lower affinity for DNA, and can bind RNA (PubMed:19123921).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-P and WB.

Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) was first used in a scientific publication in 2011 and has been cited over 252 times in peer reviewed journals. It's performance in IHC in mouse and human samples is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) has 40 independent reviews from customers.

Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) specifically detects Wilms Tumor Protein (UniProt ID: P19544; Molecular weight: 50kDa) and is sold in 100 µL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone CAN-R9(IHC)-56-2 - ab216646.

Antibody clone CAN-R9(IHC)-56-2 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 488, Alexa Fluor® 647, FITC, Alexa Fluor® 555 (ab202635, ab202639, ab223934, ab314587).

Wilms Tumor Protein (WT1) is a tumor-associated antigen that is overexpressed in various cancers, making it a target for immunotherapeutic approaches. It plays a role in tumor progression and immune evasion, influencing the tumor microenvironment and the effectiveness of immune responses.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For

details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Wilms Tumor Protein commonly known as WT1 is a critical transcription factor implicated in several cellular processes. It is also identified by other names such as Wilms Tumor Suppressor and WT33. WT1 protein has a mass of approximately 52-54 kDa. It is broadly expressed in various tissues with high levels in the developing kidney gonads and certain mesothelial tissues. Its expression plays an important role in organ development and cellular differentiation.
Biological function summary	The WT1 protein regulates gene expression by binding to specific DNA sequences influencing cell growth and differentiation. WT1 acts as a part of larger protein complexes interacting with other transcription factors and co-regulators. It plays essential roles in the development of the urogenital system and in the maintenance of mesothelial cells. The WT1 protein is essential for normal kidney and gonadal development highlighting its significance in embryogenesis.
Pathways	WT1 integration involves multiple cellular signaling cascades. It is notably engaged in the Wnt and PI3K/AKT signaling pathways which are critical for cell proliferation and survival. In these pathways WT1 interaction with proteins such as β -catenin and PI3K subunits modulates cell fate decisions. This involvement in signaling networks exemplifies its importance in cellular homeostasis and response to environmental cues.
Associated diseases and disorders	WT1 mutations or dysregulation associate strongly with specific pathologies particularly Wilms tumor and acute myeloid leukemia (AML). In Wilms tumor WT1 acts as a tumor suppressor gene and its loss of function leads to tumorigenesis in the kidney. In AML aberrant WT1 expression affects normal hematopoiesis and is often linked to poor prognosis. Interaction with proteins like BSA in immunohistochemistry diagnostics highlights WT1's significance as a biomarker for these diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

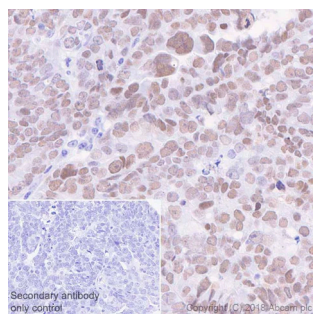
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
[Terms & Conditions.](#)

12 product images

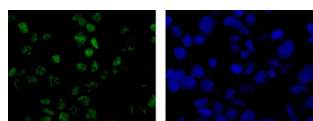


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wilms Tumor Protein antibody

ab89901 staining Wilms Tumor Protein in paraffin-embedded human ovarian serous adenocarcinoma tissue sections by Immunohistochemistry.

Antigen retrieval was by heat mediation using citrate buffer (pH 6.0) was performed. Samples were incubated with primary antibody at 1:500 dilution (0.49 µg/ml). A ready to use Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Nuclear staining on human ovarian serous adenocarcinoma (PMID: 11939727) is observed.

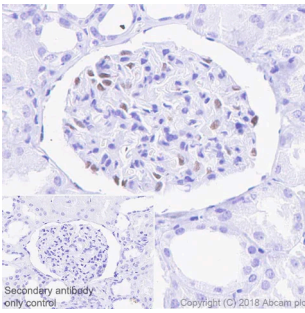


Immunocytochemistry/ Immunofluorescence - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Wilms Tumor Protein antibody

Immunocytochemistry/Immunofluorescence analysis of K562 (Human chronic myelogenous leukemia cell line from bone marrow) cells labeling Wilms Tumor Protein (green) with purified ab89901 at 1/50.

Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/200) was used as the secondary antibody. Counterstained with DAPI (blue).

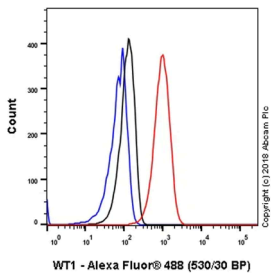


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wilms Tumor Protein antibody

ab89901 staining Wilms Tumor Protein in paraffin-embedded human kidney tissue sections by Immunohistochemistry.

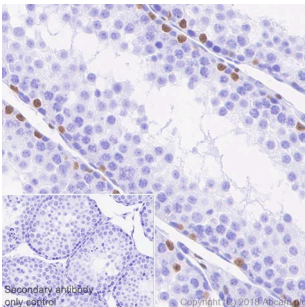
Antigen retrieval was by heat mediation using citrate buffer (pH 6.0). Samples were incubated with primary antibody at 1:500 dilution (0.49 µg/ml). A ready to use Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Nuclear staining on human kidney glomerulus (PMID: 12898605) is observed.



Flow Cytometry (Intracellular) - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Flow Cytometry (Intracellular) staining using rabbit Anti-Wilms Tumor Protein antibody

Intracellular Flow Cytometry analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling Wilms Tumor Protein with ab89901 at 1/200 dilution (0.1 µg)/ Red. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, [ab150077](#)) at 1/2000 dilution was used as the secondary antibody. Rabbit monoclonal IgG ([ab172730](#)) / Black was used as the isotype control. Cells without incubation with primary antibody and secondary antibody / Blue was used as the unlabeled control.

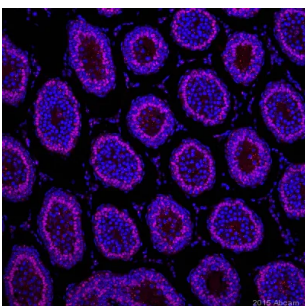


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wilms Tumor Protein antibody

ab89901 staining Wilms Tumor Protein in paraffin-embedded mouse testis tissue sections by Immunohistochemistry.

Antigen retrieval was by heat mediation using citrate buffer (pH 6.0). Samples were incubated with primary antibody at 1:500 dilution (0.49 µg/ml). A ready to use Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Nuclear staining on Sertoli cells in mouse testis (PMID: 21863216) is observed.

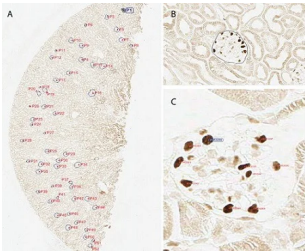


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wilms Tumor Protein antibody

This image is courtesy of an anonymous customer review.

Immunohistochemical analysis of formaldehyde fixed, paraffin embedded rat testis tissue sections, labeling Wilms Tumor Protein using ab89901. Heat mediated antigen retrieval was performed using 10 mM sodium citrate and 0.05% Tween-20. Tissue sections were incubated with ab89901 at a 1/50 dilution for 12 hours at 4°C. The tissues were blocked with 10% serum for 30 minutes at 25°C. The secondary used was a Donkey CY3[®] conjugate at a 1/200 dilution.

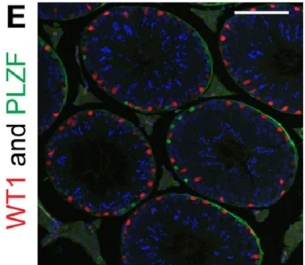


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wilms Tumor Protein antibody

Verma et al PLoS One.
2018 Jun
20;13(6):e0198013. doi:
10.1371/journal.pone.0198013. eCollection 2018.
Fig S1. Reproduced under the Creative Commons license
<https://creativecommons.org/publicdomain/zero/1.0/>

Podocyte counting using WT1 staining.
Mouse kidney sections were stained with WT1 antibody ab89901 using immunohistochemistry. (A) Each glomeruli was identified and numbered using ImagePro premier imaging software. (B) A tracing was applied along the Bowman's capsule to assess the surface area of the glomerulus. (C) Each WT1 positive nucleus was identified and the nuclear size assessed.



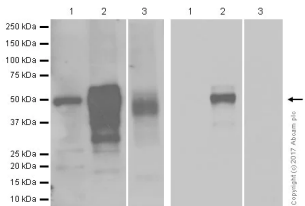
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wilms Tumor Protein antibody

Adams et al PLoS Genet.
2018 Feb
20;14(2):e1007233. doi:
10.1371/journal.pgen.1007233. eCollection 2018
Feb. Fig S1. Reproduced under the Creative Commons license
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Spermatogenic phenotypes of *Rnf8*; *Scml2*-dKO mice.
Immunostaining of testicular sections with WT1 (ab89901), a marker of Sertoli cells, and PLZF, a marker of undifferentiated spermatogonia.

For preparation of testicular paraffin blocks, testes of mutants and littermate controls were fixed with 4% paraformaldehyde at 4°C overnight. Testes were then dehydrated and embedded in paraffin. For histological analyses, 6 µm-thick paraffin sections were deparaffinized and autoclaved in Target Retrieval Solution at 121°C for 20 min. The sections were blocked with for 10 min at room temperature, and then incubated with primary antibodies at 4°C overnight.



Western blot - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Western blot staining using rabbit Anti-Wilms Tumor Protein antibody

Exposure time: Left image: 3 minutes
Right image: 15 seconds
This antibody shows low affinity in mouse sample.

Blocking and diluting buffer: 5% NFDM/TBST

All lanes:
Western blot - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) at 1/500 dilution

Lane 1:
Human testis whole cell lysate. at 15 µg

Lane 2:
K562 (Human T cell leukemia T lymphocyte) whole cell lysates at 4 µg

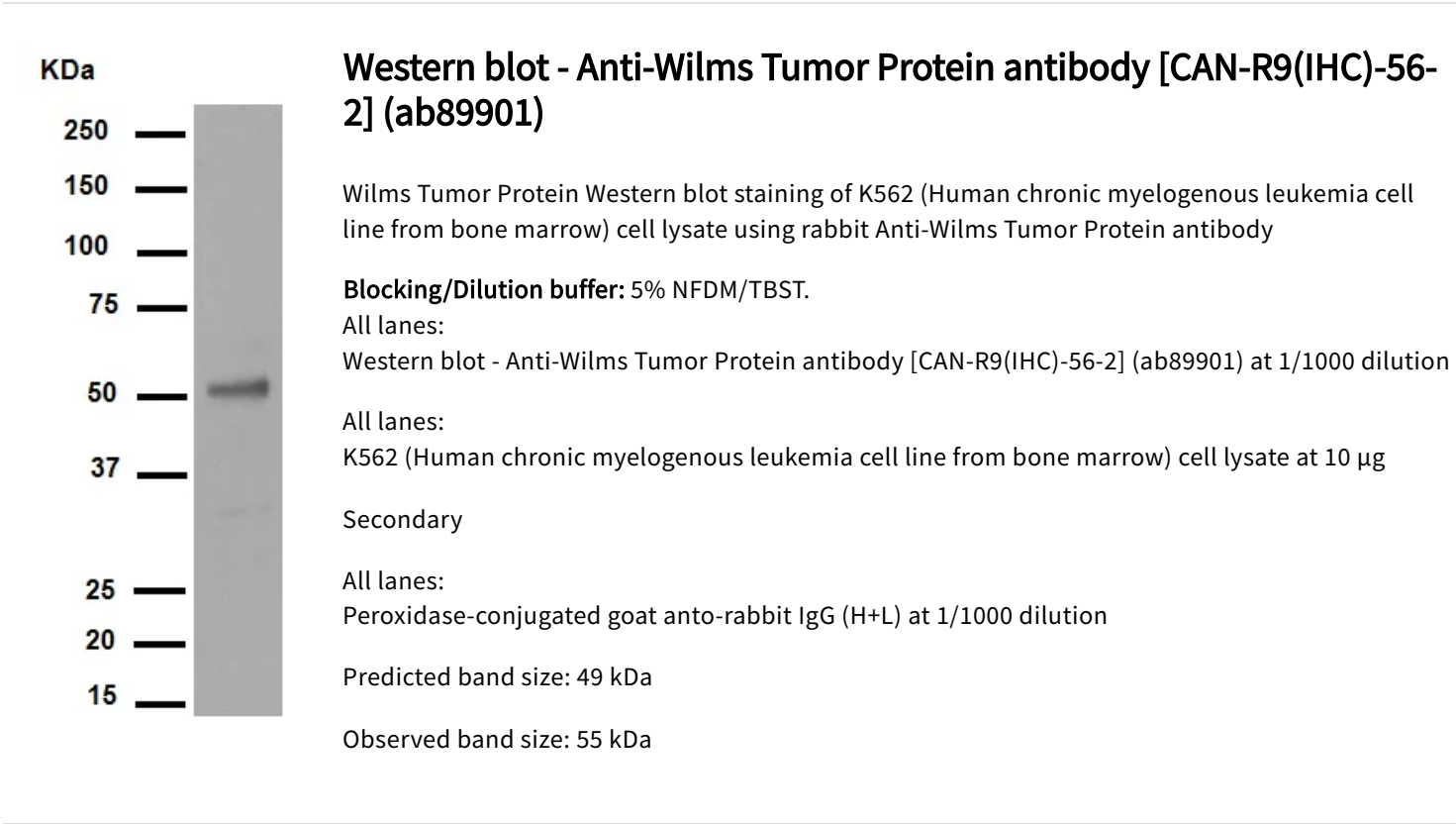
Lane 3:
Mouse testis whole cell lysates at 15 µg

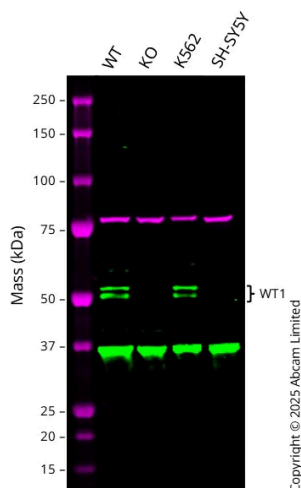
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Predicted band size: 49 kDa

Observed band size: 55 kDa





Western blot - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Western blot staining using rabbit Anti-Wilms Tumor Protein antibody

Western blot: Rabbit Monoclonal [CAN-R9(IHC)-56-2] to Wilms Tumor Protein ab89901 staining at 1/500 dilution, shown in green; Mouse anti-CANX ([ab238078](#)) loading control staining at 1/20,000 dilution, shown in magenta.

A band was observed at 50/61 kDa in Wild-type HAP1 cell lysates with no signal observed at this size in WT1 knockout HAP1 cell line.

To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged.

Secondary antibodies used were Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20,000 dilution.

All lanes:

Western blot - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) at 1/500 dilution

Lane 1:

Wild-type HAP1 at 20 µg

Lane 2:

WT1 knockout HAP1 at 20 µg

Lane 3:

K562 at 20 µg

Lane 4:

SH-SY5Y at 20 µg

Secondary

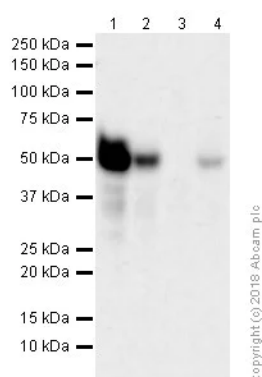
All lanes:

Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 50 kDa

Observed band size: 61 kDa



Western blot - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901)

Wilms Tumor Protein Western blot staining using rabbit Anti-Wilms Tumor Protein antibody

WT1 expression varies in different cell lines.

Blocking and diluting buffer: 5% NFDM/TBST.

All lanes:

Western blot - Anti-Wilms Tumor Protein antibody [CAN-R9(IHC)-56-2] (ab89901) at 1/5000 dilution

Lane 1:

K-562 (Human chronic myelogenous leukemia lymphoblast). Whole cell lysates at 20 µg

Lane 2:

THP-1 (Human monocytic leukemia monocyte). Whole cell lysates at 20 µg

Lane 3:

SH-SY5Y (Human neuroblastoma epithelial cell) Whole cell lysates at 20 µg

Lane 4:

HeLa (Human cervix adenocarcinoma epithelial cell) Whole cell lysates at 20 µg

Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Predicted band size: 49 kDa

Exposure time: 3min

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.