

PAX5 Polyclonal Antibody

Catalog NumberPA1-109

Product data sheet

Details		Species Reactivity	
Size	100 µg	Species reactivity	Human, Mouse
Host/Isotope	Rabbit / IgG	Published species	Human
Class	Polyclonal	Tested Applications	
Type	Antibody	Flow Cytometry (Flow)	Dilution *1:50
Immunogen	Purified internal fragment of human recombinant PAX5 expressed in E. coli	Immunohistochemistry (Paraffin) (IHC (P))	1:50-1:500
Conjugate	Unconjugated	Immunoprecipitation (IP)	2-5 µg
Form	Liquid	Western Blot (WB)	1:500-1:2,000
Concentration	1 mg/mL	Immunocytochemistry (ICC/IF)	1:20-1:200
Purification	Protein G	Published Applications	
Storage buffer	PBS with 1mg/mL BSA, 30% glycerol	Western Blot (WB)	See 1 publications below
Contains	0.05% sodium azide	Immunohistochemistry (IHC)	See 1 publications below
Storage Conditions	-20°C	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	

Product specific information

Western blot analysis of PA1-109 detects a prominent ~45 kDa protein in PAX5 expressing human Ramos, Daudi, Gaji and mouse A20 B-cell lymphoma cells. No PAX5 was detected in negative control Jurkat cells. The 45 kDa band is enriched in immunoprecipitations from Raji lysate, however additional unknown high molecular weight bands are also enriched and detected by PA1-109. PAX5 was also specifically detected by immunofluorescence in the nuclei of Ramos cells compared to negative control Jurkat cells.

Background/Target Information

PAX5 is a member of the paired box (PAX) family of transcription factors. The PAX proteins are important regulators in early development and alterations in the expression of their genes are thought to contribute to neoplastic transformation. PAX5 is the B-cell lineage specific activator protein (BSAP) that is expressed at early, but not late stages, of B-cell differentiation. Its expression has also been detected in developing CNS and testis, therefore, PAX5 may not only play an important role in B-cell differentiation, but also in neural development and spermatogenesis. Mutations in the gene can result in leukemia, acute lymphoblastic 3.

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

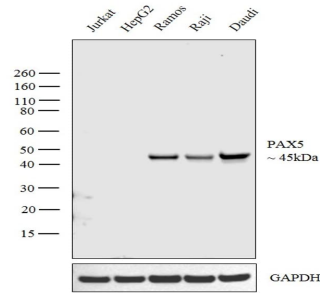
Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.

Product Images For PAX5 Polyclonal Antibody

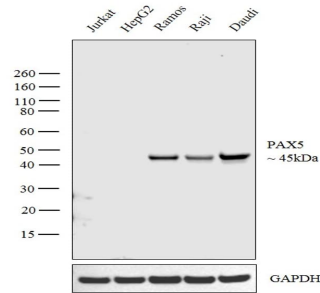
PAX5 Antibody (PA1-109) in WB

Western blot analysis was performed on modified whole cell extracts (30 µg lysate) of Jurkat (Lane 1), HepG2 (Lane 2), Ramos (Lane 3), Raji (Lane 4) and Daudi (Lane 5). The blot was probed with Anti-PAX5 Polyclonal Antibody (Product # PA1-109, 1:1000 dilution) and detected by chemiluminescence using Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Secondary Antibody, HRP conjugate (Product # A27036, 0.25 µg/mL, 1:4000 dilution). A 45kDa band corresponding to PAX5 was seen in all cell lines tested except Jurkat and HepG2.



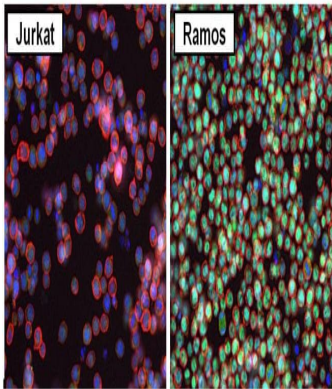
PAX5 Antibody (PA1-109)

Antibody specificity was demonstrated by detection of differential basal expression of the target across cell lysates owing to their inherent genetic constitution. Relatively expression of PAX5 was observed in all cell lysates tested in comparison to Jurkat and Hep G2 using product (Product # PA1-109) in western blot. {RE}



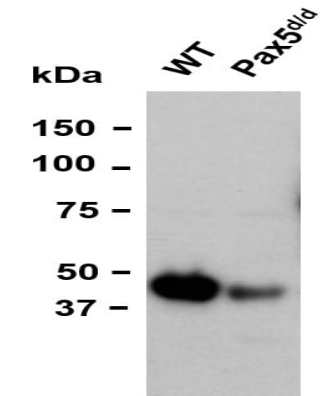
PAX5 Antibody (PA1-109) in ICC/IF

Immunofluorescent analysis of PAX5 (green) in Ramos and negative control Jurkat cells. Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature. Cells were blocked with 2% Blocker BSA (Product # 37525) for 15 minutes at room temperature. Cells were probed with a PAX5 polyclonal antibody (Product # PA1-109) at a dilution of 1:100 for at least 1 hour at room temperature, washed with PBS, and incubated with a DyLight 488-conjugated goat anti-rabbit IgG secondary antibody (Product # 35552) at a dilution of 1:200 for 30 minutes at room temperature. F-Actin (red) was stained with DyLight-554 Phalloidin (Product # 21834) and nuclei (blue) were stained with Hoechst 33342 dye (Product # 62249). Images were taken on a Thermo Scientific ToxInsight Instrument at 20X magnification.



PAX5 Antibody (PA1-109)

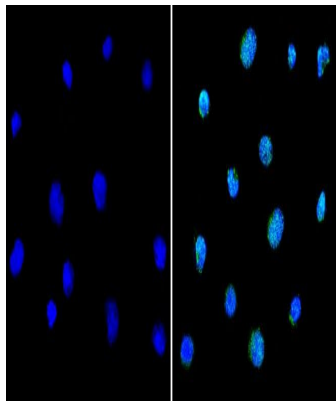
Antibody specificity was demonstrated by CRISPR-Cas9 mediated knockout of target protein Pax5. A loss of signal by western blot was observed for targeted Pax5 KO cell line (lane 2) compared to gRNA cell line (lane 1) using polyclonal Pax5 antibody (Product # MPA1-109). {KO}



For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

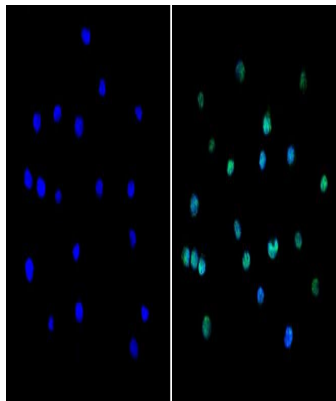
Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.



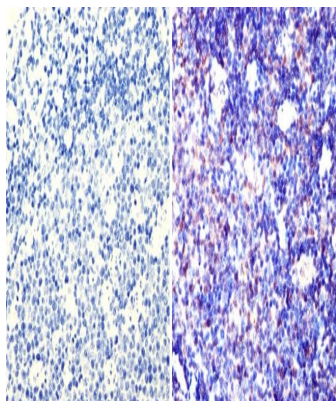
PAX5 Antibody (PA1-109) in ICC/IF

Immunofluorescent analysis of PAX5 (green) showing staining in the in the nucleus of Raji cells (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with a PAX5 polyclonal antibody (Product # PA1-109) in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. Nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.



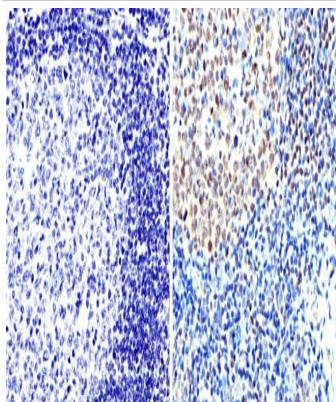
PAX5 Antibody (PA1-109) in ICC/IF

Immunofluorescent analysis of PAX5 (green) showing staining in the in the nucleus of Ramos cells (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with a PAX5 polyclonal antibody (Product # PA1-109) in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. Nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.



PAX5 Antibody (PA1-109) in IHC (P)

Immunohistochemistry analysis of PAX5 showing staining in the nucleus of paraffin-embedded mouse lymph node tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a PAX5 polyclonal antibody (Product # PA1-109) diluted in 3% BSA-PBS at a dilution of 1:100 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



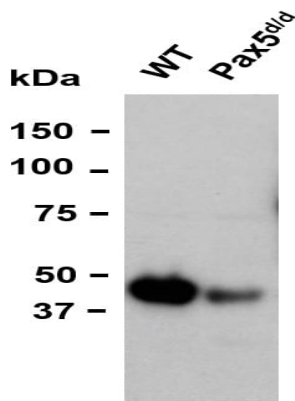
PAX5 Antibody (PA1-109) in IHC (P)

Immunohistochemistry analysis of PAX5 showing staining in the nucleus of paraffin-embedded human tonsil tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a PAX5 polyclonal antibody (Product # PA1-109) diluted in 3% BSA-PBS at a dilution of 1:200 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

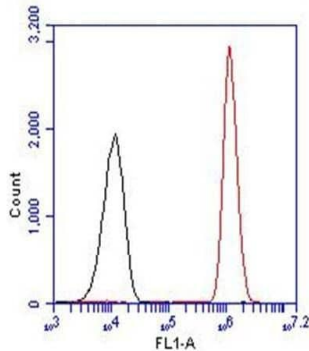
Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.



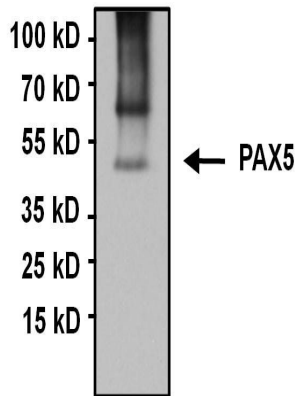
PAX5 Antibody (PA1-109) in WB

Western blot analysis of Pax5 was performed by loading whole cell lysate in 1X LDS sample buffer with 2-ME from 5 x 10⁵ mouse transformed pre-B cells. Samples were loaded onto a 4-12 % Bis-Tris polyacrylamide gel (Product # NP0336BOX). Proteins were transferred to nitrocellulose membrane with wet/tank transfer. Membrane was blocked in 5% milk/TBST. The membrane was probed with a polyclonal anti-Pax5 antibody (Product #PA1-109) at a dilution of 1: 500 in 5% milk/TBST at 4°C overnight, followed by a secondary antibody HRP-anti-rabbit at a dilution of 1:10000 at room temperature for 1 hour. Chemiluminescent detection was performed using Pierce™ ECL Western Blotting Substrate (Product # PI-32209). Data courtesy of Thermo Scientific KOL Program.



PAX5 Antibody (PA1-109) in Flow

Flow cytometry analysis of PAX5 (red histogram) on Ramos cells. Cells were harvested, fixed with 4% formaldehyde, permeabilized, washed with PBS, and incubated with a PAX5 polyclonal antibody (Product # PA1-109) at a 1:50 dilution or with PBS alone (black histogram) for 1 hour at room temperature. For flow cytometry analysis, 30-minute incubation with DyLight 488 goat anti-rabbit IgG secondary antibody (Product # 35552) was performed. 30,000 cells were acquired for analysis.

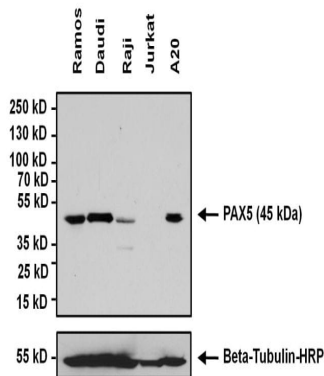


PAX5 Antibody (PA1-109) in IP

Immunoprecipitation of PAX5 was performed using Raji whole cell lysates. Antigen-antibody complexes were formed by incubating 750 µg of lysate with 5 µg of a PAX5 polyclonal antibody (Product # PA1-109) overnight on a rocking platform at 4°C. The immune complexes were captured on 50 µL Protein A/G Agarose (Product # 20421), washed extensively, and eluted with 5X Lane Marker Reducing Sample Buffer (Product # 39000). Samples were resolved on a 4-20% Tris-HCl polyacrylamide gel, transferred to a PVDF membrane, and blocked with 5% BSA/TBS-0.1%Tween-20 for 1 hour. The membrane was probed with a PAX5 polyclonal antibody (Product # PA1-109) at a dilution of 1:1000 overnight rotating at 4°C. Membranes were washed in TBST, and probed with Clean-Blot IP Detection Reagent (Product # 21230) at a dilution of 1:1000 for at least one hour. Chemiluminescent detection was performed using SuperSignal West Pico (Product # 34080).

PAX5 Antibody (PA1-109) in WB

Western blot analysis of PAX5 was performed by loading 75 µg of whole cell lysates from PAX5-expressing B cell lymphoma-derived cell lines, negative control Jurkat cells, and 10 µL of PageRuler Plus Prestained Protein Ladder (Product # 26619) onto a 4-20% Tris-HCl polyacrylamide gel. Proteins were transferred to a PVDF membrane and blocked with 5% BSA/TBST for at least 1 hour. The membrane was probed with a PAX5 polyclonal antibody (Product # PA1-109) at a dilution of 1:1000 overnight at 4°C on a rocking platform, washed in TBS-0.1% Tween-20, and probed with a goat anti-rabbit HRP secondary antibody (Product # 32460) at a dilution of 1:500 (20 ng/mL) for one hour. Membranes were washed and chemiluminescent detection was performed using SuperSignal West Pico (Product # 34080, upper panel). To assay for protein loading (lower panel), the membrane was stripped with Restore PLUS Western Blot Stripping Buffer (Product # 46430), blocked with 5% BSA/TBST, and re-probed with an HRP-conjugated Beta Tubulin Loading Control Antibody (Product # MA5-16308-HRP) at a dilution of 1:1000 for 1 hour at room temperature. Chemiluminescent detection was performed using SuperSignal West Pico (Product # 34080).



For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.

PubMed References For PAX5 Polyclonal Antibody

1 Western Blot References

Species / Dilution	Summary
	PA1-109 was used in Western Blot to assess the role of cadherin-6 (CDH6) in human osteosarcoma, identifying that the expression of CDH6 is closely related with the overall survival and poor prognosis of osteosarcoma patients.
Human / Not Cited	Molecular therapy : the journal of the American Society of Gene Therapy (2018; 26: 1299) "miR-223-3p Inhibits Human Osteosarcoma Metastasis and Progression by Directly Targeting CDH6." Author(s):Ji Q,Xu X,Song Q,Xu Y,Tai Y,Goodman SB,Bi W,Xu M,Jiao S,Maloney WJ,Wang Y PubMed Article URL: http://dx.doi.org/10.1016/j.ymthe.2018.03.009

1 Immunohistochemistry References

Species / Dilution	Summary
	PA1-109 was used in Immunohistochemistry to demonstrate breakage and extra copies of the ALK gene in 30% of cells.
Human / 1:100	Oncology letters (2017; 14: 787) "Relapsed anaplastic lymphoma kinase-positive large B-cell lymphoma expressed cluster of differentiation 4 and cytokeratin: An initially misdiagnosed case corrected by immunoglobulin locus gene rearrangement detection." Author(s):Shi Y,Li X,Song Y,Zhou L,Feng Q,Wang P,Zhang C,Liu W,Bai Y,Lai Y PubMed Article URL: http://dx.doi.org/10.3892/ol.2017.6180

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.