For Research Use Only

ATR Polyclonal antibody

Catalog Number:19787-1-AP Featured Product 20 Publications

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Basic Information

Catalog Number:
19787-1-AP

Size:
150ul , Concentration: 600 μg/ml by Nanodrop;

Source:
Rabbit

Isotype:
IgG

GenBank Accession Number:
NM_001184

GeneID (NCBI):
545

Full Name:
ataxia telangiectasia and Rad3 related

Calculated MW:
301 kDa

Observed MW:
250-290 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:500-1:1000
IP 0.5-4.0 ug for IP and 1:500-1:1000 for WB
IHC 1:50-1:500

Applications

Tested Applications:
IHC, IP, WB, ELISA

Cited Applications:
IHC, WB

Species Specificity:
human, mouse

Cited Species:
human, mouse, rat

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : HeLa cells, mouse testis tissue

IP : mouse testis tissue,

IHC : mouse testis tissue,

Background Information

ATR, also named as FRP1, belongs to the PI3/PI4-kinase family and ATM subfamily. ATR is a serine/threonine protein kinase which activates checkpoint signaling upon genotoxic stresses such as ionizing radiation (IR), ultraviolet light (UV), or DNA replication stalling, thereby acting as a DNA damage sensor. ATR recognizes the substrate consensus sequence [ST]-Q. ATR phosphorylates BRCA1, CHEK1, MCM2, RAD17, RPA2, SMC1 and TP53/p53, which collectively inhibit DNA replication and mitosis and promote DNA repair, recombination and apoptosis. ATR phosphorylates 'Ser-139' of histone variant H2AX/H2AFX at sites of DNA damage, thereby regulating DNA damage response mechanism. It is required for FANCD2 ubiquitination. It is critical for maintenance of fragile site stability and efficient regulation of centrosome duplication. ATR catalyze the reaction: ATP + a protein = ADP + a phosphoprotein. Defects in ATR are a cause of Seckel syndrome type 1 (SCKL1) which is a rare autosomal recessive disorder characterized by growth retardation, microcephaly with mental retardation, and a characteristic 'bird-headed' facial appearance. The antibody can recognize all the isoforms of ATR.

Notable Publications

Author	Pubmed ID	Journal	Application
Jingyuan Sun	33087136	J Exp Clin Cancer Res	WB
Xiufang Song	26451628	Chem Res Toxicol	WB
Mingdong Liu	30297842	Nat Commun	WB

Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
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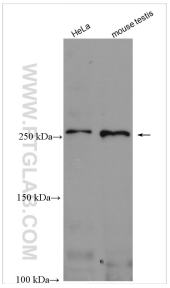
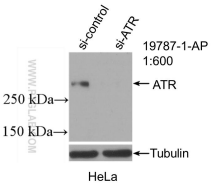
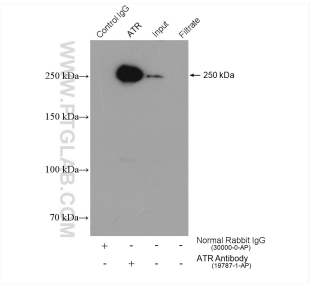
Selected Validation Data



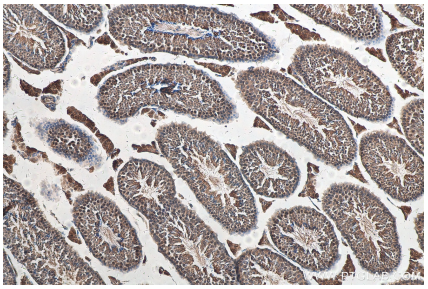
Various lysates were subjected to SDS PAGE followed by western blot with 19787-1-AP (ATR antibody) at dilution of 1:800 incubated at room temperature for 1.5 hours.



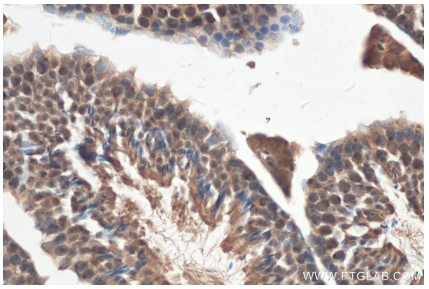
WB result of ATR antibody (19787-1-AP; 1:600; incubated at room temperature for 1.5 hours) with sh-Control and sh-ATR transfected HeLa cells.



IP result of anti-ATR(IP:19787-1-AP, 4ug; Detection:19787-1-AP 1:500) with mouse testis tissue lysate 2040 ug.



Immunohistochemical analysis of paraffin-embedded mouse testis tissue slide using 19787-1-AP (ATR antibody) at dilution of 1:200 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded mouse testis tissue slide using 19787-1-AP (ATR antibody) at dilution of 1:200 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).