

# JAK1 (PT0658R) PT<sup>®</sup> Rabbit mAb

Catalog#: AM8467 | Size: 30µL/50µL/100µL

## **Main Information**

Target	Host Species	Reactivity	Application	MW	Conjugated/Modification
JAK1	Rabbit	Human, Mouse, Rat	WB, IHC, IF, IP, ELISA	133kD (Calculated) 133kD (Observed)	Unmodified

# **Detailed Information**

Recommeded Dilution Ratio	IHC 1:100-1:1000; WB 1:2000-1:10000; IF 1:200-1:1000; ELISA 1:5000-1:20000; IP 1:50-1:200		
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA.		
Specificity	Endogenous		
Purification	Protein A		
Storage	-15°C to -25°C/1 year(Do not lower than -25°C)		
MW(Calculated)	133kD		
MW(Observed)	133kD		
Modification	Unmodified		
Clonality	Monoclonal		
Clone Number	PT0658R		
Isotype	lgG		

# Antigen&Target Information

Specificity	Endogenous
Gene Name	JAK1 JAK1A JAK1B
Protein Name	JAK1
Other Name	Tyrosine-protein kinase JAK1 ;Janus kinase 1 ;JAK-1

# Database Link

Organism	Gene ID	SwissProt
Human	3716	P23458
Mouse		P52332



#### Background

This gene encodes a membrane protein that is a member of a class of protein-tyrosine kinases (PTK) characterized by the presence of a second phosphotransferase-related domain immediately N-terminal to the PTK domain. The encoded kinase phosphorylates STAT proteins (signal transducers and activators of transcription) and plays a key role in interferon-alpha/beta and interferon-gamma signal transduction. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Mar 2016].

#### Function

Catalytic activity:ATP + a [protein]-L-tyrosine = ADP + a [protein]-L-tyrosine phosphate.,Domain:Possesses two phosphotransferase domains. The second one probably contains the catalytic domain (By similarity), while the presence of slight differences suggest a different role for domain 1,,Domain:The FERM domain mediates interaction with JAKMIP1.,Function:Tyrosine kinase of the non-receptor type, involved in the IFN-alpha/beta/gamma signal pathway. Kinase partner for the interleukin (IL)-2 receptor,sequence Caution:Translation N-terminally extended.,similarity:Belongs to the protein kinase superfamily. Tyr protein kinase family. JAK subfamily.,similarity:Contains 1 FERM domain.,similarity:Contains 1 protein kinase domain.,similarity:Contains 1 SH2 domain.,subcellular location:Wholly intracellular, possibly membrane associated.,subunit:Interacts with IL31RA, JAKMIP1 and SHB,,tissue specificity:Expressed at higher levels in primary colon tumors than in normal colon tissue. The expression level in metastatic colon tumors is comparable to the expression level in normal colon tissue.

#### **Cellular Localization**

Endomembrane system; Peripheral membrane protein. Wholly intracellular, possibly membrane associated.

#### **Tissue Expression**

Expressed at higher levels in primary colon tumors than in normal colon tissue. The expression level in metastatic colon tumors is comparable to the expression level in normal colon tissue.

#### **Research Areas**

- EGFR tyrosine kinase inhibitor resistance
- PI3K-Akt signaling pathway
- Necroptosis
- Osteoclast differentiation
- · Signaling pathways regulating pluripotency of stem cells
- NOD-like receptor signaling pathway
- JAK-STAT signaling pathway
- Th1 and Th2 cell differentiation
- Th17 cell differentiation
- Leishmaniasis
- Toxoplasmosis
- Tuberculosis
- Hepatitis C
- Hepatitis B
- Measles
- Human cytomegalovirus infection
- Influenza A
- Human papillomavirus infection
- Human T-cell leukemia virus 1 infection
- Kaposi sarcoma-associated herpesvirus infection
- Herpes simplex virus 1 infection
- Epstein-Barr virus infection
- Coronavirus disease COVID-19
- Pathways in cancer
- Viral carcinogenesis
- Pancreatic cancer
- PD-L1 expression and PD-1 checkpoint pathway in cancer



# **Signaling Pathway**

Cellular Processes >> Cell growth and death >> Necroptosis Cellular Processes >> Cellular community - eukaryotes >> Signaling pathways regulating pluripotency of stem cells Organismal Systems >> Immune system >> Toll-like receptor signaling pathway Organismal Systems >> Immune system >> NOD-like receptor signaling pathway Organismal Systems >> Immune system >> Th1 and Th2 cell differentiation Organismal Systems >> Immune system >> Th17 cell differentiation Organismal Systems >> Development and regeneration >> Osteoclast differentiation Human Diseases >> Cancer: overview >> Pathways in cancer Human Diseases >> Cancer: overview >> PD-L1 expression and PD-1 checkpoint pathway in cancer Human Diseases >> Cancer: specific types >> Pancreatic cancer Environmental Information Processing >> Signal transduction >> JAK-STAT signaling pathway Environmental Information Processing >> Signal transduction >> PI3K-Akt signaling pathway

### Validation Data



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-JAK1 antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: T47D Lane 2: 4T1



Human lung carcinoma was stained with anti-JAK1 rabbit antibody



Immunofluorescence analysis of A549. 1,primary Antibody was diluted at 1:200(4°C overnight). 2, Goat Anti Rabbit IgG (H&L) - Alexa Fluor 488 Secondary antibody was diluted at 1:1000(room temperature, 50min).3, Picture B: DAPI(blue) 10min.

Immunofluorescence analysis of rat-lung tissue. 1,JAK1 Monoclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B

#### **Contact Information**

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