

## Rabbit Anti-JAK2 antibody

SL0908R

**Product Name** JAK2

**Chinese Name** 蛋白质酪氨酸激酶 JAK2 抗体

**Alias** Tyrosine protein kinase JAK2; JAK 2; JAK-2; JAK2\_HUMAN; Janus Activating Kinase 2; Janus Kinase 2; JTK 10; JTK10; OTTHUMP00000043260; Tyrosine-protein kinase JAK2; Tyrosine protein kinase JAK2.

**Research Area** Tumour Cell biology immunology Chromatin and nuclear signals Signal transduction Kinases and Phosphatases Epigenetics

**Immunogen Species** Rabbit

**Clonality** Polyclonal

**React Species** Human, Mouse, Rat, (predicted: Chicken, Dog, Pig, Cow, )

WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1µg/Test  
(Paraffin sections need antigen repair)

**Applications** not yet tested in other applications.  
optimal dilutions/concentrations should be determined by the end user.

**Theoretical molecular weight** 131kDa

**Cellular localization** The nucleus cytoplasmic The cell membrane

**Form** Liquid

**Concentration** 1mg/ml

**immunogen** KLH conjugated synthetic peptide derived from human JAK2: 601-700/1132

**Lsotype** IgG

**Purification** affinity purified by Protein A

**Buffer Solution** 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

**Storage** Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

**Attention** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

**PubMed** [PubMed](#)

This gene product is a protein tyrosine kinase involved in a specific subset of cytokine receptor signaling pathways. It has been found to be constitutively associated with the prolactin receptor and is required for responses to gamma interferon. Mice that do not express an active protein for this gene exhibit embryonic lethality associated with the absence of definitive erythropoiesis. [provided by RefSeq, Jul 2008]

**Function:**

Non-receptor tyrosine kinase involved in various processes such as cell growth, development, differentiation or histone modifications. Mediates essential signaling events in both innate and adaptive immunity. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors such as growth hormone (GHR), prolactin (PRLR), leptin (LEPR), erythropoietin (EPOR), thrombopoietin (THPO); or type II receptors including IFN-alpha, IFN-beta, IFN-gamma and multiple interleukins. Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins. Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, cell stimulation with erythropoietin (EPO) during erythropoiesis leads to JAK2 autophosphorylation, activation, and its association with erythropoietin receptor (EPOR) that becomes phosphorylated in its cytoplasmic domain. Then, STAT5 (STAT5A or STAT5B) is recruited, phosphorylated and activated by JAK2. Once activated, dimerized STAT5 translocates into the nucleus and promotes the transcription of several essential genes involved in the modulation of erythropoiesis. In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation. Plays a role in cell cycle by phosphorylating CDKN1B. Cooperates with TEC through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. In the nucleus, plays a key role in chromatin by specifically mediating phosphorylation of 'Tyr-41' of histone H3 (H3Y41ph), a specific tag that promotes exclusion of CBX5 (HP1 alpha) from chromatin.

**Product  
Detail**

**Subunit:**

Interacts with EPOR, LYN, SIRPA, SH2B1 and TEC (By similarity). Interacts with IL23R, SKB1 and STAM2.

**Subcellular Location:**

Endomembrane system; Peripheral membrane protein (By similarity). Cytoplasm. Nucleus.

**Tissue Specificity:**

Ubiquitously expressed throughout most tissues.

**Post-translational modifications:**

Autophosphorylated, leading to regulate its activity. Leptin promotes phosphorylation on tyrosine residues, including phosphorylation on Tyr-813. Autophosphorylation on

Tyr-119 in response to EPO down-regulates its kinase activity. Autophosphorylation on Tyr-868, Tyr-966 and Tyr-972 in response to growth hormone (GH) are required for maximal kinase activity. Also phosphorylated by TEC.

**DISEASE:**

Note=Chromosomal aberrations involving JAK2 are found in both chronic and acute forms of eosinophilic, lymphoblastic and myeloid leukemia. Translocation t(8;9)(p22;p24) with PCM1 links the protein kinase domain of JAK2 to the major portion of PCM1. Translocation t(9;12)(p24;p13) with ETV6.

Defects in JAK2 are a cause of susceptibility to Budd-Chiari syndrome (BDCHS) [MIM:600880]. A syndrome caused by obstruction of hepatic venous outflow involving either the hepatic veins or the terminal segment of the inferior vena cava. Obstructions are generally caused by thrombosis and lead to hepatic congestion and ischemic necrosis. Clinical manifestations observed in the majority of patients include hepatomegaly, right upper quadrant pain and abdominal ascites. Budd-Chiari syndrome is associated with a combination of disease states including primary myeloproliferative syndromes and thrombophilia due to factor V Leiden, protein C deficiency and antithrombin III deficiency. Budd-Chiari syndrome is a rare but typical complication in patients with polycythemia vera.

**Similarity:**

Belongs to the protein kinase superfamily. Tyr protein kinase family. JAK subfamily.  
Contains 1 FERM domain.  
Contains 1 protein kinase domain.  
Contains 1 SH2 domain.

**SWISS:**

O60674

**Gene ID:**

3717

**Database links:**

[Entrez Gene: 3717](#) Human

[Entrez Gene: 16452](#) Mouse

[Entrez Gene: 24514](#) Rat

[GenBank: NP\\_004963](#) Human

[Omim: 147796](#) Human

[SwissProt: O60674](#) Human

[SwissProt: Q62120](#) Mouse

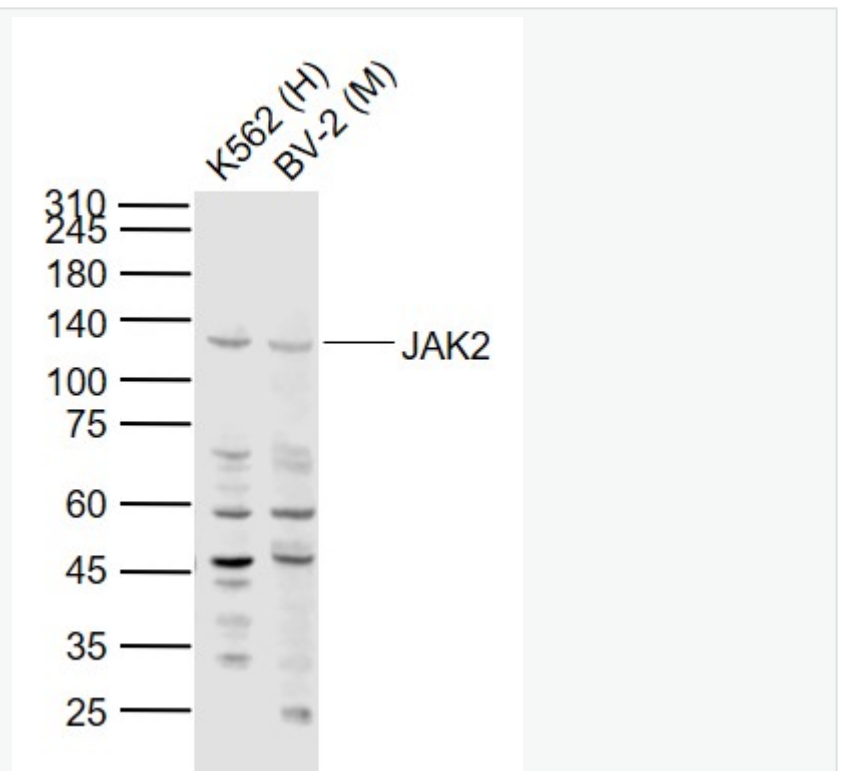
[SwissProt: Q62689](#) Rat

[Unigene: 656213](#) Human

[Unigene: 275839](#) Mouse

[Unigene: 18909](#) Rat

**Product  
Picture**



**Sample:**

Lane 1: K562 (Human) Cell Lysate at 30 ug

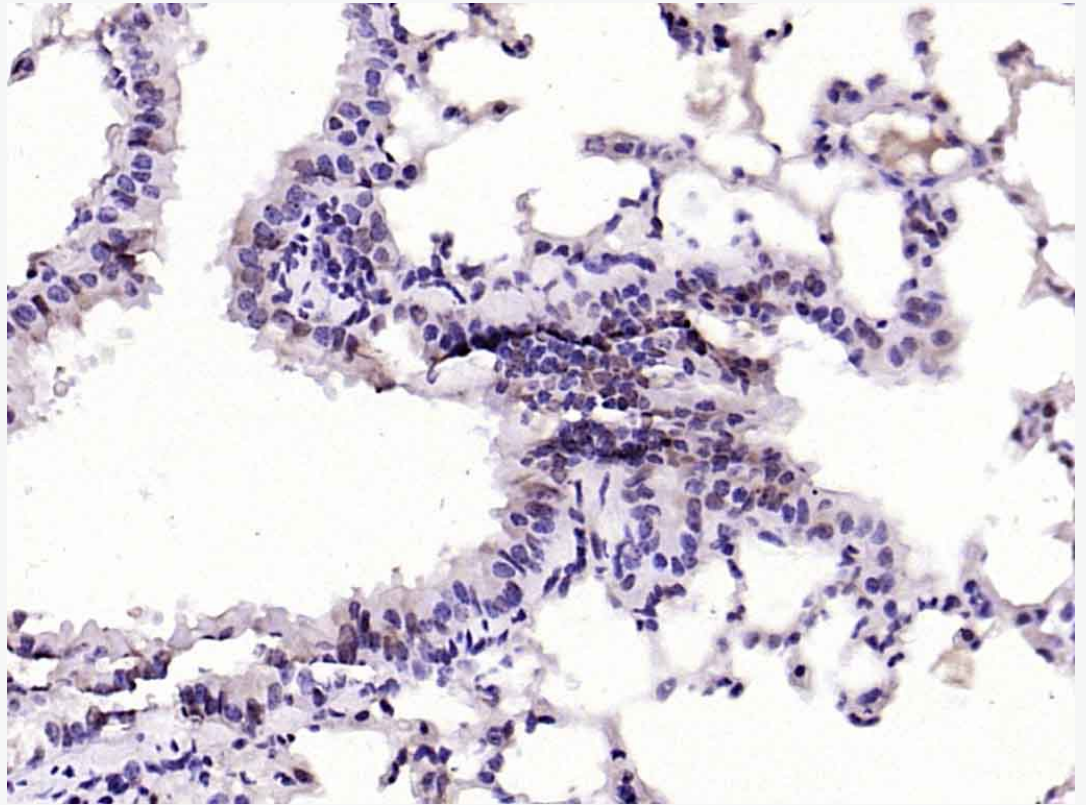
Lane 2: BV-2 (Mouse) Cell Lysate at 30 ug

Primary: Anti-JAK2 (SL0908R) at 1/1000 dilution

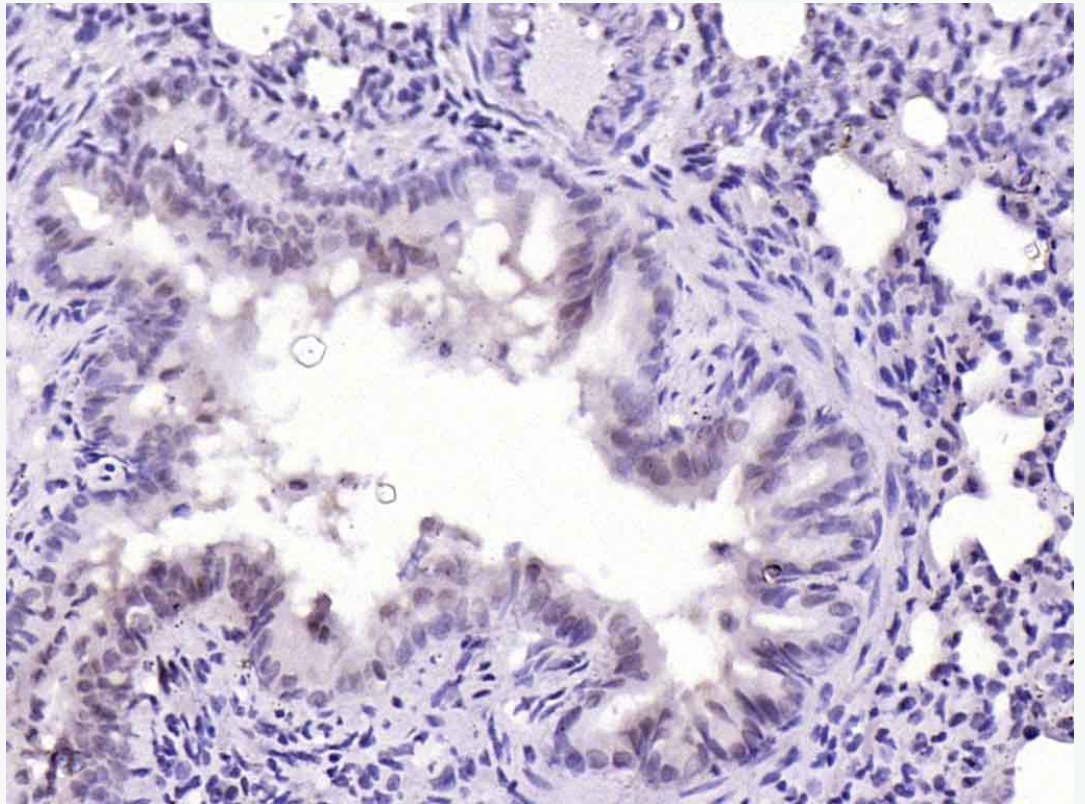
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 131 kD

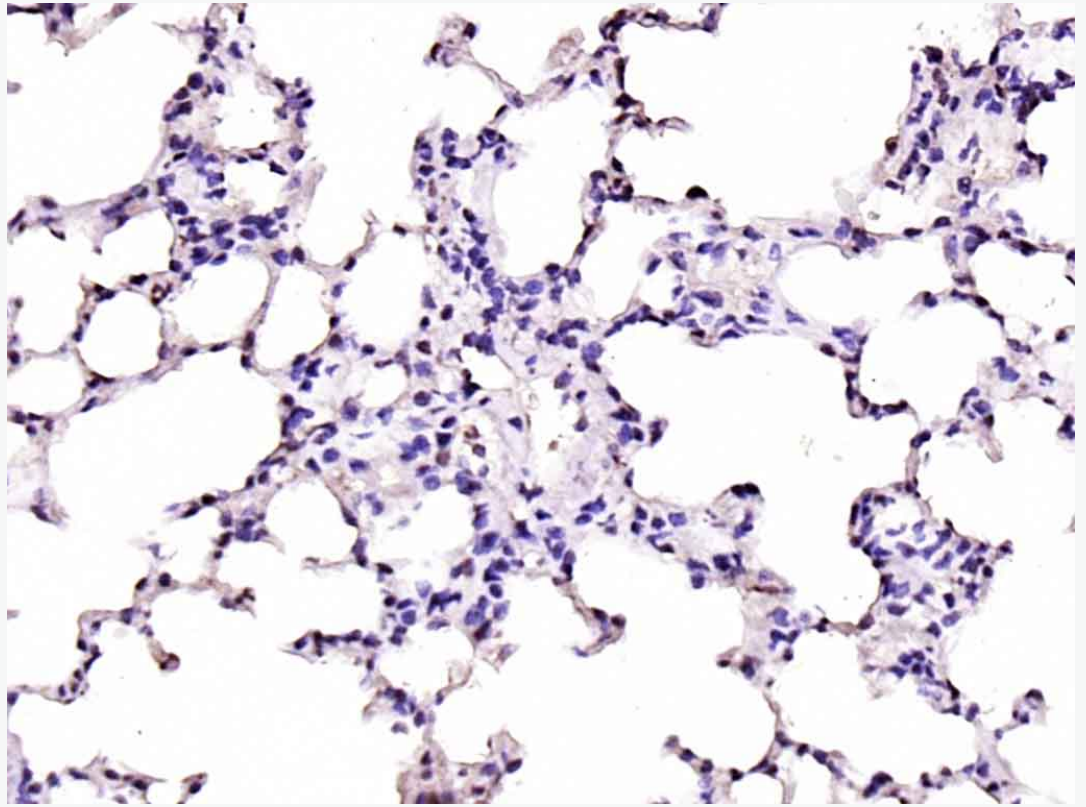
Observed band size: 125 kD



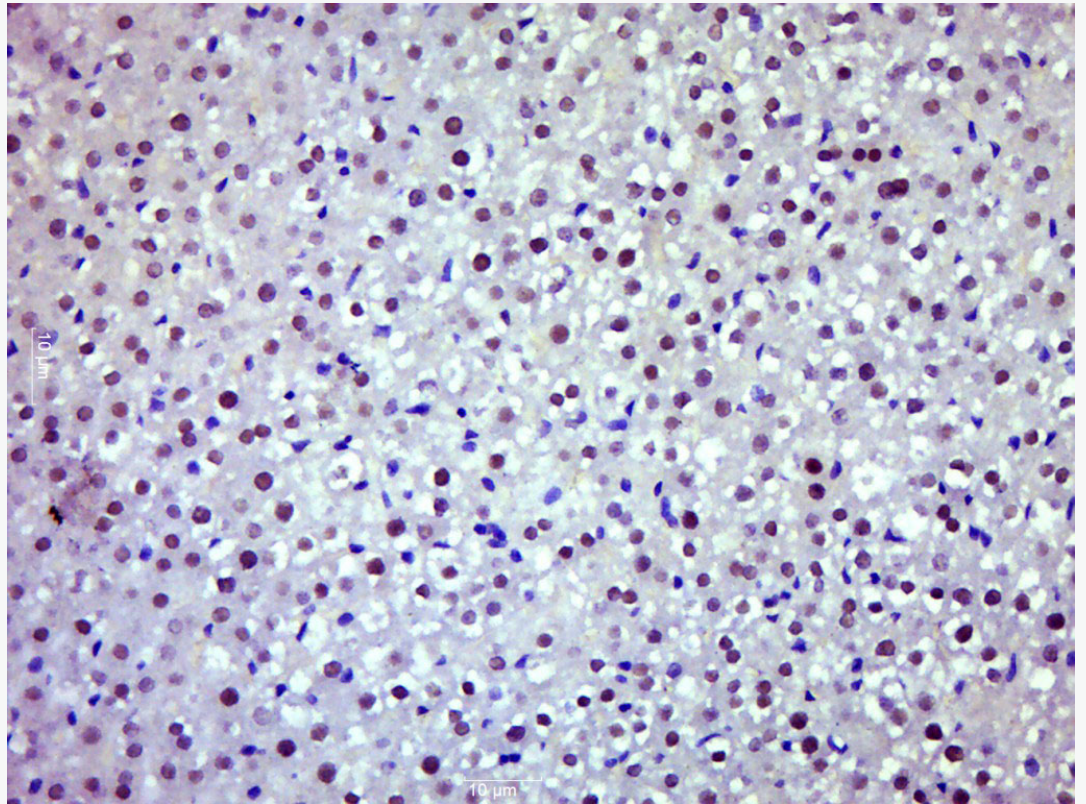
Paraformaldehyde-fixed, paraffin embedded (mouse lung); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (JAK2) Polyclonal Antibody, Unconjugated (SL0908R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



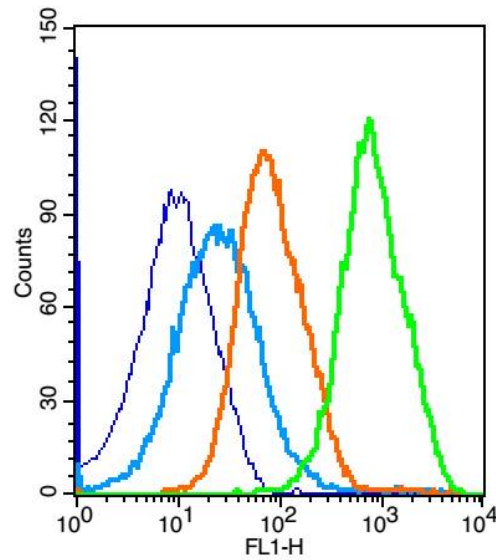
Paraformaldehyde-fixed, paraffin embedded (rat lung); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (JAK2) Polyclonal Antibody, Unconjugated (SL0908R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (rat lung); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (JAK2) Polyclonal Antibody, Unconjugated (SL0908R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



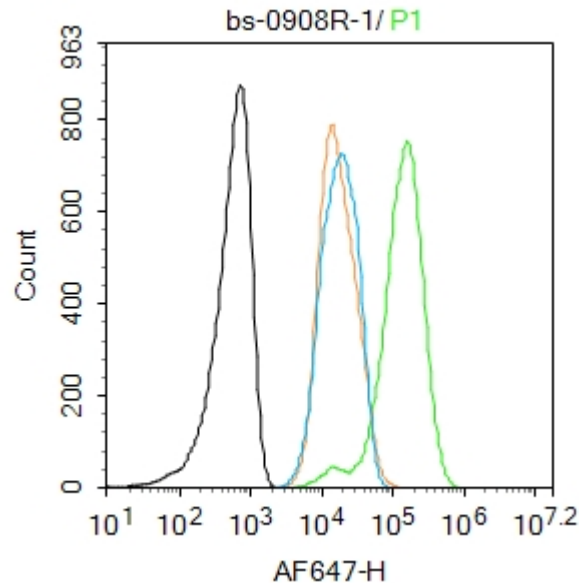
Paraformaldehyde-fixed, paraffin embedded (Rat liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (JAK2) Polyclonal Antibody, Unconjugated (SL0908R) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.



Key	Name	Parameter	Gate
—	(mo)Splenocyte-blank.036	FL1-H	G1
—	bs-0295G-FITC-(mo)Sp#1E5870.037	FL1-H	G1
—	bs-0295P-(FITC)-(mo)#1E5874.038	FL1-H	G1
—	bs-0908R-(FITC)-(mo)#1E5883.049	FL1-H	G1

Blank control: mouse splenocytes(blue)

Isotype Control Antibody: Rabbit IgG(orange) ; Secondary Antibody: Goat anti-rabbit IgG-FITC(white blue), Dilution: 1:100 in 1 X PBS containing 0.5% BSA ; Primary Antibody Dilution: 1 $\mu$ l in 100  $\mu$ L 1X PBS containing 0.5% BSA(green).



Blank control:HL-60

Primary Antibody (green line): Rabbit Anti-phospho-JAK2 (Tyr221) antibody (SL0908R)

Dilution: 1 $\mu$ g /10<sup>6</sup> cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody : Goat anti-rabbit IgG-AF647

Dilution: 1 $\mu$ g /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at-20°C.The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature.



SunLong Biotech Co.,LTD  
Tel: 0086-571-56623320 Fax:0086-571-56623318  
E-mail:sales@sunlongbiotech.com  
www.sunlongbiotech.com

Acquisition of 20,000 events was performed.