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Rabbit Anti-ERK1 + ERK2 antibody

SL0022R

Product Name:	ERK1 + ERK2
Chinese Name:	丝裂原活化蛋白激酶1/ERK 1/2抗体
Alias:	ERK 1/2; ERK 1; ERK 2; ERK-2; ERK1; ERK2; ERT1; ERT2; Extracellular signal regulated kinase 1; Extracellular signal regulated kinase 2; Extracellular signal-regulated kinase 2; HS44KDAP; HUMKER1A; Insulin stimulated MAP2 kinase; MAP kinase 1; MAP kinase 2; MAP kinase isoform p42; MAP kinase isoform p44; MAPK 1; MAPK 2; MAPK 3; MAPK1; MAPK2; MAPK3; MGC20180; Microtubule associated protein 2 kinase; Mitogen activated protein kinase 1; Mitogen activated protein kinase 2; Mitogen activated protein kinase 3; Mitogen-activated protein kinase 1; Mitogen-activated protein kinase 2; MK01_HUMAN; MK03_HUMAN; p38; p40; p41; p41mapk; p42 MAPK; p42-MAPK; p42MAPK; p44 ERK1; p44 MAPK; p44ERK1; p44MAPK; PRKM 1; PRKM 2; PRKM 3; PRKM1; PRKM2; PRKM3; Protein kinase mitogen activated 1; Protein kinase mitogen activated 2; Protein kinase mitogen activated 3; Protein tyrosine kinase ERK 2.
文献引用 PubMed :	**Specific References(5)**|SL0022R has been referenced in 5 publications. **[IF=3.03]**Sun, Jing, et al. "Hypoglycemic effect and mechanism of honokiol on type 2 diabetic mice." Drug Design, Development and Therapy 9 (2015): 6327.**WB;Mouse**. PubMed:26674084 **[IF=1.58]**Sun, Jing, et al. "Magnolia officinalis extract contains potent inhibitors against PTP1B and attenuates hyperglycemia in db/db mice." BioMed Research International 2015 (2015).**WB;Mouse**. PubMed:26064877 **[IF=2.27]**Yu, Wu, et al. "BEX4 upregulation alters Sertoli cell growth properties and protein expression profiles: An explanation for cadmium-induced testicular Sertoli cell injury." Journal of Biochemical and Molecular Toxicology (2017).

	PubMed:28295929 [IF=3.86]Chu, Meiqiang, et al. "MicroRNA-126 participates in lipid metabolism in mammary epithelial cells." Molecular and Cellular Endocrinology (2017).**WB;Human**. PubMed:28599789 [IF=3.22]Du, Wei, et al. "Pinellia ternata Attenuates Mucus Secretion and Airway Inflammation after Inhaled Corticosteroid Withdrawal in COPD Rats." The American Journal of Chinese Medicine 44.05 (2016): 1027-1041.**WB;Rat**. PubMed:27430907
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Dog,Pig,Cow,Horse,Rabbit,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=1μg/TestIF=1:100-500（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	42kDa
Cellular localization:	The nucleuscytoplasmicThe cell membraneExtracellular matrix
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human ERK2:301-358/358
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	The protein encoded by this gene is a member of the MAPkinase family. MAP kinases, also known as extracellularsignal-regulated kinases (ERKs), act in a signaling cascade thatregulates various cellular processes such as proliferation,differentiation, and cell cycle progression in response to avariety of extracellular signals. This kinase is activated byupstream kinases, resulting in its translocation to the nucleuswhere it phosphorylates nuclear targets. Alternatively splicedtranscript variants encoding different protein isoforms have beendescribed. [provided by RefSeq, Jul 2008]. **Function:** Serine/threonine kinase which acts as an essentialcomponent of the MAP kinase signal transduction pathway. MAPK1/ERK2and MAPK3/ERK1 are the 2 MAPKs which play an important role in theMAPK/ERK cascade. They participate also in a signaling cascadeinitiated by activated KIT and KITLG/SCF. Depending on the cellularcontext, the MAPK/ERK cascade mediates diverse biological functionssuch as cell growth,

	adhesion, survival and differentiation throughthe regulation of transcription, translation, cytoskeletalrearrangements. The MAPK/ERK cascade plays also a role ininitiation and regulation of meiosis, mitosis, and postmitoticfunctions in differentiated cells by phosphorylating a number oftranscription factors. About 160 substrates have already beendiscovered for ERKs. Many of these substrates are localized in thenucleus, and seem to participate in the regulation of transcriptionupon stimulation. However, other substrates are found in thecytosol as well as in other cellular organelles, and those areresponsible for processes such as translation, mitosis andapoptosis. Moreover, the MAPK/ERK cascade is also involved in theregulation of the endosomal dynamics, including lysosome processingand endosome cycling through the perinuclear recycling compartment(PNRC); as well as in the fragmentation of the Golgi apparatusduring mitosis. The substrates include transcription factors (suchas ATF2, BCL6, ELK1, ERF, FOS, HSF4 or SPZ1), cytoskeletal elements(such as CANX, CTTN, GJA1, MAP2, MAPT, PXN, SORBS3 or STMN1),regulators of apoptosis (such as BAD, BTG2, CASP9, DAPK1, IER3,MCL1 or PPARG), regulators of translation (such as EIF4EBP1) and avariety of other signaling-related molecules (like ARHGEF2, DCC,FRS2 or GRB10). Protein kinases (such as RAF1, RPS6KA1/RSK1,RPS6KA3/RSK2, RPS6KA2/RSK3, RPS6KA6/RSK4, SYK, MKNK1/MNK1,MKNK2/MNK2, RPS6KA5/MSK1, RPS6KA4/MSK2, MAPKAPK3 or MAPKAPK5) andphosphatases (such as DUSP1, DUSP4, DUSP6 or DUSP16) are othersubstrates which enable the propagation the MAPK/ERK signal toadditional cytosolic and nuclear targets, thereby extending thespecificity of the cascade. Mediates phosphorylation of TPR inrespons to EGF stimulation. May play a role in the spindle assemblycheckpoint. Phosphorylates PML and promotes its interaction withPIN1, leading to PML degradation (By similarity). Acts as a transcriptional repressor. Binds to a[GC]AAA[GC] consensus sequence. Repress the expression ofinterferon gamma-induced genes. Seems to bind to the promoter ofCCL5, DMP1, IFIH1, IFITM1, IRF7, IRF9, LAMP3, OAS1, OAS2, OAS3 andSTAT1. Transcriptional activity is independent of kinase activity. **Subunit:** Binds both upstream activators and downstream substratesin multimolecular complexes. Interacts with ADAM15, ARHGEF2, ARRB2,DAPK1 (via death domain), HSF4, IER3, IPO7, DUSP6, NISCH, SGK1, andisoform 1 of NEK2. Interacts (via phosphorylated form) with TPR(via C-terminus region and phosphorylated form); the interactionrequires dimerization of MAPK1/ERK2 and increases following EGFstimulation. Interacts (phosphorylated form) withCAV2 ('Tyr-19'-phosphorylated form); the interaction, promoted byinsulin, leads to nuclear location and MAPK1 activation. Interacts with DCC. Interacts withMORG1, PEA15 and MKNK2. MKNK2 isoform 1 binding prevents fromdephosphorylation and inactivation. The phosphorylated forminteracts with PML. **Subcellular Location:** Cytoplasm, cytoskeleton, spindle. Nucleus. Cytoplasm, cytoskeleton, centrosome. Cytoplasm. Note=Associated with the spindle duringprometaphase and metaphase. PEA15-binding andphosphorylated DAPK1 promote its cytoplasmic retention.Phosphorylation at Ser-244 and Ser-246 as well asautophosphorylation at Thr-

188 promote nuclear localization.

Tissue Specificity:
Widely expressed.

Post-translational modifications:
Dually phosphorylated on Thr-183 and Tyr-185, which activatesthe enzyme. Ligand-activated ALK induces tyrosine phosphorylation. Dephosphorylated by PTPRJ at Tyr-185. Phosphorylated upon FLT3 and KIT signaling.

Similarity:
Belongs to the protein kinase superfamily. CMGCSer/Thr protein kinase family. MAP kinase subfamily.
Contains 1 protein kinase domain.

SWISS:
P27361

Gene ID:
5595

Database links:

Entrez Gene: 5594 Human

Entrez Gene: 5595 Human

Entrez Gene: 26413 Mouse

Entrez Gene: 26417 Mouse

Entrez Gene: 116590 Rat

Entrez Gene: 50689 Rat

Entrez Gene: 327672 Cow

Omim: 176948 Human

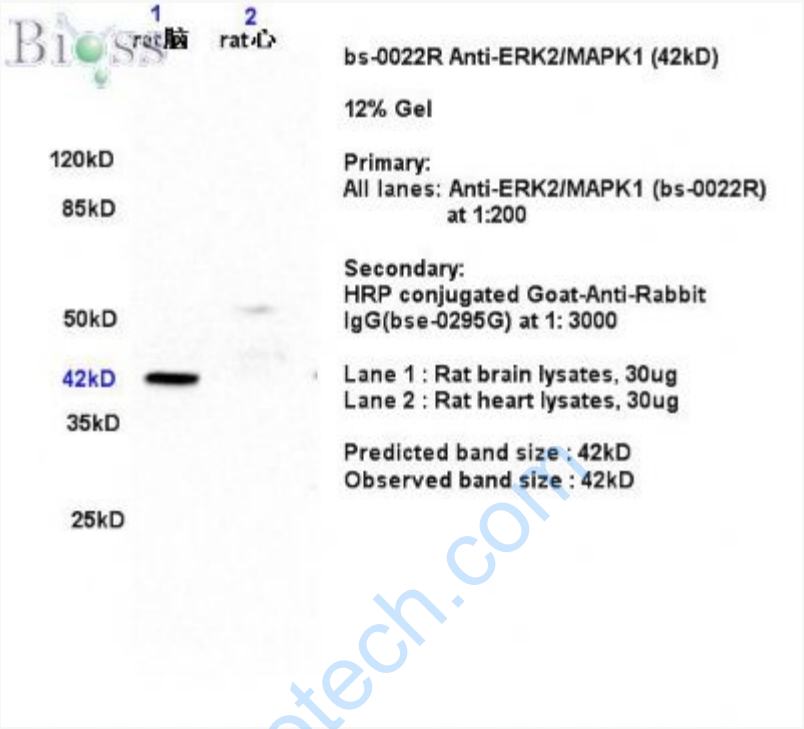
Omim: 601795 Human

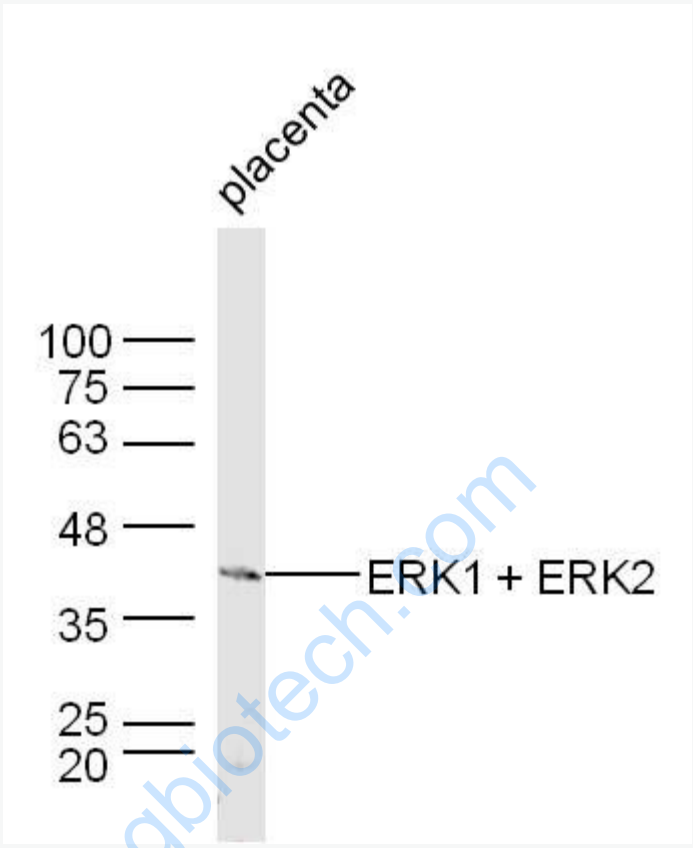
SwissProt: P46196 Cow

SwissProt: P27361 Human

SwissProt: P28482 Human

	SwissProt: P63085 Mouse SwissProt: Q63844 Mouse SwissProt: P21708 Rat SwissProt: P63086 Rat Unigene: 431850 Human Unigene: 861 Human Unigene: 196581 Mouse Unigene: 8385 Mouse Unigene: 2592 Rat Unigene: 34914 Rat **Important Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. Kinases and Phosphatases(Kinases and Phosphatases) 丝裂原活化蛋白激酶-ERK(Mitogen-activated protein kinase 1, MAPK-1)是一组可以被多种细胞外信号即获得蛋白丝/苏氨酸激酶，处于胞浆信号传导通路的终末位置，活化后转位到核内，作用于核内转录因子，调节基因表达。它主要参与生长因子、激素、cell factor、应激等各种刺激下细胞的反应、细胞的生长、分化过程。 蛋白分子量:42kDa。 经研究证实，MAPKSignal transduction通路存在于大多数细胞内，在将细胞外刺激Signal transduction至细胞及其核内，并引起Cell biology学反应(如细胞增殖、分化、转化及凋亡等)的过程中具有至关重要的作用。 研究表明，MAPKSignal transduction通路在细胞内具有生物进化的高度保守性，在低等原核细胞和高等哺乳类细胞内，目前均已发现存在着多条并行的MAPK信号通路，不同的细胞外刺激可使用不同的MAPK信号通路，通过其相互调控而介导不同的Cell biology学反应。

Picture:	 Sample: Brain (Rat) Lysate at 30 ug Heart (Rat) lysate at 30 ug Primary: Anti- ERK2/MAPK1 (SL0022R) at 1/200 dilution Secondary: HRP conjugated Goat-Anti-rabbit IgG (SL0022R) at 1/3000 dilution Predicted band size: 42 kD Observed band size: 42 kD



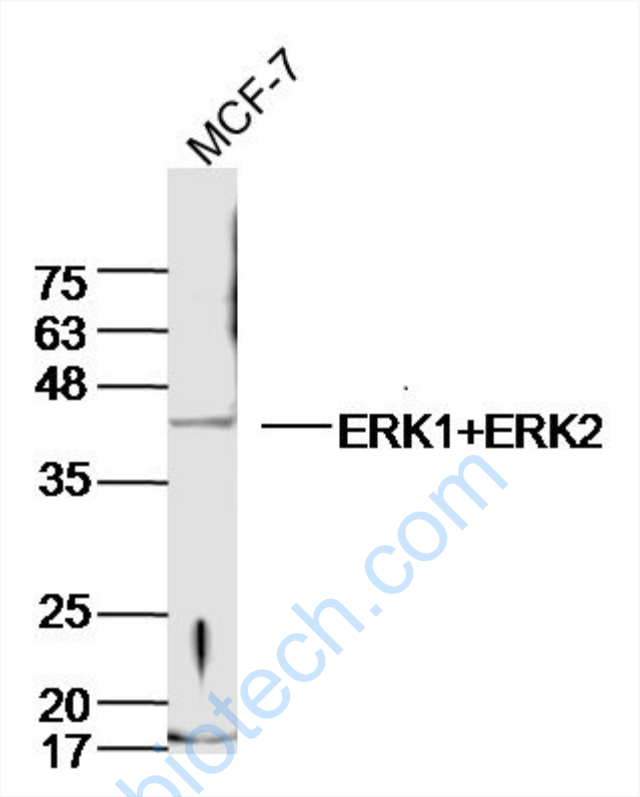
Sample: Placenta(Mouse) Lysate at 40 ug

Primary: Anti- ERK1+ERK2 (SL0022R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/10000 dilution

Predicted band size: 42 kD

Observed band size: 42 kD



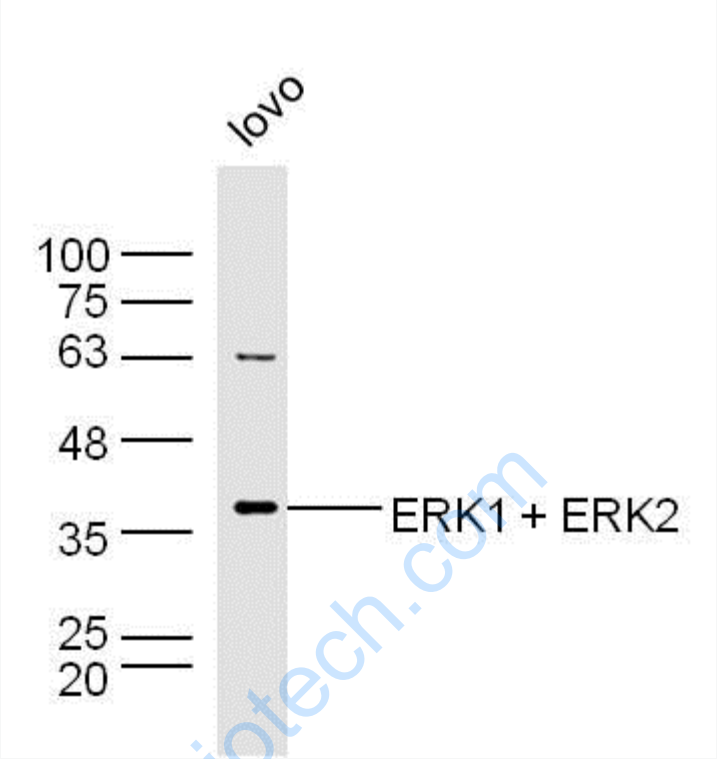
Sample: MCF-7 Cell Lysate at 40 ug

Primary: Anti- ERK1+ERK2 (SL0022R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/10000 dilution

Predicted band size: 42 kD

Observed band size: 43 kD



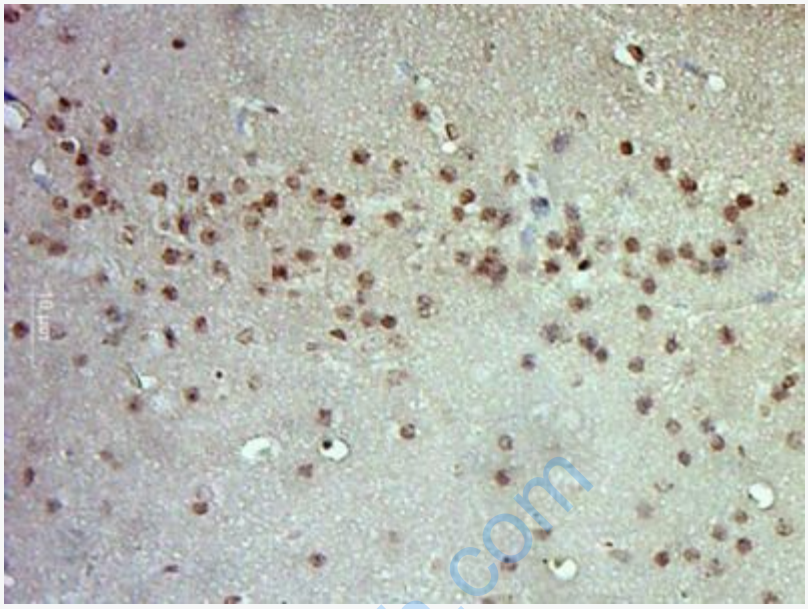
Sample: Lovo Cell Lysate at 30 ug

Primary: Anti-ERK1+ERK2 (SL0022R) at 1/200 dilution

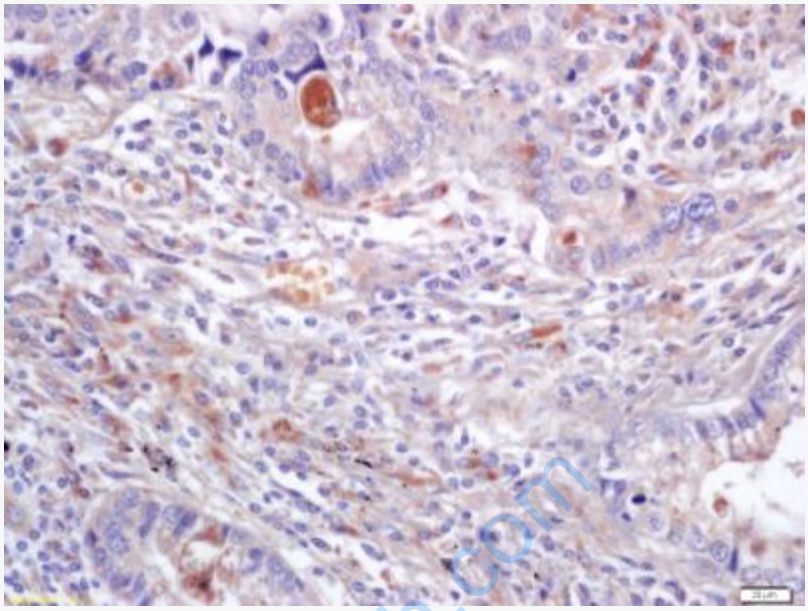
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/10000 dilution

Predicted band size: 42 kD

Observed band size: 41 kD



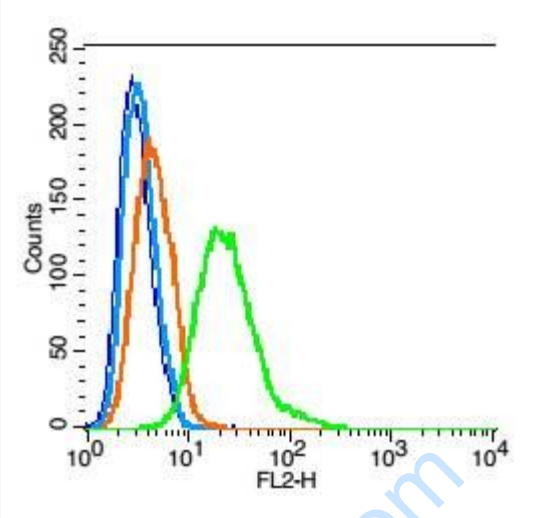
Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (ERK1 + ERK2) Polyclonal Antibody, Unconjugated (SL0022R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Tissue/cell: human lung carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;

Incubation: Anti-ERK2/MAPK1 Polyclonal Antibody, Unconjugated(SL0022R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control: Hep G2 cells (blue).

Primary Antibody:Rabbit Anti-ERK1 + ERK2 antibody(SL0022R), Dilution: 1μg in 100 μL 1X PBS containing 0.5% BSA;

Isotype Control Antibody: Rabbit IgG(orange) ,used under the same conditions);

Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA.

Protocol

The cells were fixed with 2% paraformaldehyde (10 min) , then permeabilized with 90% ice-cold methanol for 30 min on ice. Primary antibody (SL0022R) were incubated for 30 min on the ice, followed by 1 X PBS containing 0.5% BSA + 1 0% goat serum (15 min) to block non-specific protein-protein interactions. Then the Goat Anti-rabbit IgG/PE antibody was added into the blocking buffer mentioned above to react with the primary antibody at 1/200 dilution for 30 min on ice. Acquisition of 20,000 events was performed.