SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-CD46 antibody

Catalog Number: SL1529R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	CD46
Immunogen:	KLH conjugated synthetic peptide derived from human CD46: 251-355/355 <Extracellular>
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	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） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human, Mouse
Predicted MW.:	43kDa
Subcellular Location:	The cell membrane
Background:	The protein encoded by this gene is a type I membrane protein and is a regulatory part of the complement system. The encoded protein has cofactor activity for inactivation of complement components C3b and C4b by serum factor I, which protects the host cell from damage by complement. In addition, the encoded protein can act as a receptor for the Edmonston strain of measles virus, human herpesvirus-6, and type IV pili of pathogenic Neisseria. Finally, the protein encoded by this gene may be involved in the fusion of the spermatozoa with the oocyte during fertilization. Mutations at this locus have been associated with susceptibility to hemolytic uremic syndrome. Alternatively spliced transcript variants encoding different isoforms have been

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described. [provided by RefSeq, Jun 2010].
Function: Acts as a cofactor for complement factor I, a serine protease which protects autologous cells against complement-mediated injury by cleaving C3b and C4b deposited on host tissue. May be involved in the fusion of the spermatozoa with the oocyte during fertilization. Also acts as a costimulatory factor for T-cells which induces the differentiation of CD4+ into T-regulatory 1 cells. T-regulatory 1 cells suppress immune responses by secreting interleukin-10, and therefore are thought to prevent autoimmunity. A number of viral and bacterial pathogens seem to exploit this property and directly induce an immunosuppressive phenotype in T-cells by binding to CD46.
Subunit: Interacts with C3b and C4b. Binds to Measles virus H protein, to Human herpesvirus 6 GH protein and to human adenovirus B/D PIV/fiber protein, and acts as a receptor for these viruses. Binds to Streptococcus pyogenes M protein and to type IV pili from Neisseria, and may act as a receptor for these pathogenic bacteria.
Subcellular Location: Cytoplasmic vesicle, secretory vesicle, acrosome inner membrane; Single-pass type I membrane protein. Note=Inner acrosomal membrane of spermatozoa. Internalized upon binding of Measles virus, Herpesvirus 6 or Neisseria gonorrhoeae, which results in an increased susceptibility of infected cells to complement-mediated injury. In cancer cells or cells infected by Neisseria, shedding leads to a soluble peptide.
Tissue Specificity: Expressed by all cells except erythrocytes.
Post-translational modifications: N-glycosylated on Asn-83; Asn-114 and Asn-273 in most tissues, but probably less N-glycosylated in testis. N-glycosylation on Asn-114 and Asn-273 is required for cytoprotective function. N-glycosylation on Asn-114 is required for Measles virus binding. N-glycosylation on Asn-273 is required for Neisseria binding. N-glycosylation is not required for human adenovirus binding.
Extensively O-glycosylated in the Ser/Thr-rich domain. O-glycosylation is required for Neisseria binding but not for Measles virus or human adenovirus binding.
In epithelial cells, isoforms B/D/F/H/J/L/3 are phosphorylated by YES1 in response to infection by Neisseria gonorrhoeae; which promotes infectivity. In T-cells, these isoforms may be phosphorylated by Lck.
DISEASE: Defects in CD46 are a cause of susceptibility to hemolytic uremic syndrome atypical type 2 (AHUS2) [MIM:612922]. An atypical form of hemolytic uremic syndrome. It is a complex genetic disease characterized by microangiopathic hemolytic anemia, thrombocytopenia, renal failure and absence of episodes of enterocolitis and diarrhea. In contrast to typical hemolytic uremic syndrome, atypical forms have a poorer prognosis, with

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	higher death rates and frequent progression to end-stage renal disease. Note=Susceptibility to the development of atypical hemolytic uremic syndrome can be conferred by mutations in various components of or regulatory factors in the complement cascade system. Other genes may play a role in modifying the phenotype. Patients with CD46 mutations seem to have an overall better prognosis compared to patients carrying CFH mutations. **Similarity:** Contains 4 Sushi (CCP/SCR) domains. **Database links:** **Entrez Gene:** 4179 Human **Entrez Gene:** 17221 Mouse **Entrez Gene:** 29333 Rat Omim: 120920 Human **SwissProt:** P15529 Human **SwissProt:** O88174 Mouse **SwissProt:** Q9Z0M4 Rat **Unigene:** 510402 Human **Unigene:** 12884 Mouse **Unigene:** 163242 Rat MCPA single-chain transmembraneglycoprotein,A novel regulatory protein of the complement system，An endogenous cofactor active protein，A member of the RCA gene cluster. CD46 is anchored to the cell via GPI. MCP is widely distributed on cells, including granulocytes, platelets, T cells (Th, Ts, Tc), B cells, NK cells, hematopoietic cell lines, fibroblasts, epidermal cells, endothelial cells, and astrocytes.

[VALIDATION IMAGES]

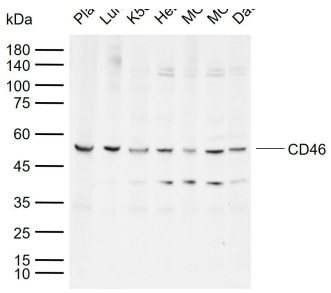


Figure 1. Sample: Lane 1: Mouse Placenta tissue lysates Lane 2: Mouse Lung tissue lysates Lane 3: Human K562 cell lysates Lane 4: Human HeLa cell lysates Lane 5: Human MOLT4 cell lysates Lane 6: Human MCF-7 cell lysates Lane 7: Human Daudi cell lysates Primary: Anti-CD46 (SL1529R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 43 kDa Observed band size: 52 kDa

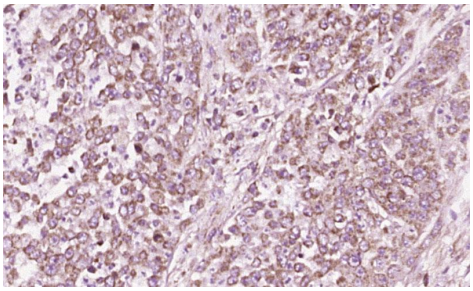


Figure 2. Paraformaldehyde-fixed, paraffin embedded (Human colon carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CD46) Polyclonal Antibody, Unconjugated (SL1529R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

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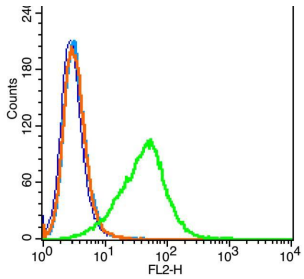


Figure 3. Blank control: 293T(blue). Primary Antibody:Rabbit Anti-CD46 antibody(SL1529R), Dilution: 1μg in 100 1μL 1X PBS containing 0.5% BSA(green); Isotype Control Antibody: Rabbit IgG(orange), used under the same conditions); Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA. protocol The cells were washed twice with phosphate-buffered saline (PBS).The cells were then incubated in 1 X PBS containing 0.5% BSA + 10% goat serum (15 min) to block non-specific protein-protein interactions followed by the antibody (SL1529R, 1μg/1x10^6 cells) for 30 min on ice. The secondary antibody used was Goat Anti-rabbit IgG/PE antibody at 1/200 dilution for 30 min on ice.Acquisition of 20,000 events was performed

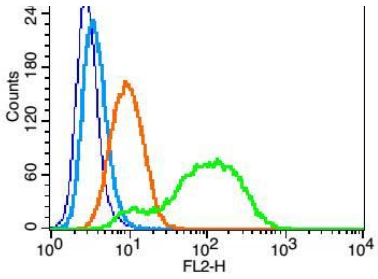


Figure 4. Blank control: U937 (blue). Primary Antibody: Rabbit Anti- CD46 antibody(SL1529R), Dilution: 1μg in 100 μL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG(orange),used under the same conditions); Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA. Protocol The cells were fixed with 2% paraformaldehyde (10 min). Primary antibody (SL1529R, 1μg /1x10^6 cells) 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

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