

**MONOCLONAL ANTIBODY TO
MOUSE TOLL-LIKE RECEPTOR 9 (TLR9, CD289)
Clone 5G5**



Catalog nr	HM1042 (lot number and expiry date are indicated on the label)										
Description	<p>The monoclonal antibody 5G5 reacts with the Toll-like receptor 9 (TLR9, CD289). TLRs are highly conserved throughout evolution and have been implicated in the innate defence to many pathogens. In <i>Drosophila</i>, toll is required for the anti-fungal response, while the related 18-wheeler is involved in antibacterial defences. In mammals, TLRs identified as type I transmembrane signalling receptors with pattern recognition capabilities, have been implicated in the innate host defence to pathogens. As investigated so far all functional characterized TLR signal via the TLR/IL-1 receptor (IL-1R) pathway where recruitment of MyD88 seems to be essential.</p> <p>In contrast to cell-wall components, bacterial DNA is probably invisible for immune cells until DNA is liberated during processes taking place in the endosomal/lysosomal compartment where intracellular TLR9 recruits MyD88 to initiate signal transduction. Unmethylated CpG-dinucleotide-containing sequences are found much more frequently in bacterial genomes than in vertebrates genomes, whereas the frequency of CpG dinucleotides are suppressed and usually methylated. The regions adjacent to the CpG dinucleotides also affect the immunostimulatory activity. The optimal sequence differs significantly between mammalian species. Methylated CpG dinucleotides lack immunostimulatory activities. Cellular activation in response to bacterial DNA and synthetic dinucleotides containing unmethylated CpG-dinucleotides is mediated by TLR9.</p> <p>The monoclonal antibody 5G5 reacts with RAW macrophages and TLR9 transfected HEK293 cells, and it is cross reactive with canine TLR9.</p>										
Species	Mouse IgG _{2a}										
Formulation	1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.										
Application	The monoclonal antibody 5G5 can be used for flow cytometry, Western blotting and immuno assays as detection antibody. Furthermore, the monoclonal antibody 5G5 is useful for immunohistology on frozen sections. The monoclonal antibody 5G5 stains RAW macrophages and TLR9 (CD289) transfected HEK293 cells. The antibody is weakly cross reactive with human TLR9.										
Use	For immunohistology, flow cytometry and Western blotting, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.										
Storage and stability	Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.										
Precautions	For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and Federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result with the use of or derivation of this product.										
References	<ol style="list-style-type: none">1. Ahmad-Nejad, P et al; Bacterial CpG-DNA and lipopolysaccharides activate Toll-like receptors at distinct cellular compartments. <i>Eur J Immunol</i> 2002, 32: 19582. Rutz, M et al; Toll-like receptor 9 binds single-stranded CpG-DNA in a sequence- and pH-dependent manner. <i>Eur J Immunol</i> 2004, 34: 25413. Burgener, I et al; Antibodies specific for human or murine Toll-like receptors detect canine leukocytes by flow cytometry. <i>Vet Immunol Immunopathol</i> 2008, 124, 184										
Also available	<table><tr><td>HM1042F</td><td>FITC conjugated monoclonal antibody against Mouse TLR9 (CD289), clone 5G5</td></tr><tr><td>HM1043</td><td>Biotinylated monoclonal antibody against Mouse TLR9 (CD289), clone 5G5</td></tr><tr><td>HC4037</td><td>Human and mouse CpG-A oligodeoxynucleotides, prototype ODN 2216; 200 nmol</td></tr><tr><td>HC4039</td><td>Human and mouse CpG-B oligodeoxynucleotides, prototype ODN 2006; 200 nmol</td></tr><tr><td>HC4041</td><td>Human and mouse CpG-C oligodeoxynucleotides, prototype ODN 2395; 200 nmol</td></tr></table>	HM1042F	FITC conjugated monoclonal antibody against Mouse TLR9 (CD289), clone 5G5	HM1043	Biotinylated monoclonal antibody against Mouse TLR9 (CD289), clone 5G5	HC4037	Human and mouse CpG-A oligodeoxynucleotides, prototype ODN 2216; 200 nmol	HC4039	Human and mouse CpG-B oligodeoxynucleotides, prototype ODN 2006; 200 nmol	HC4041	Human and mouse CpG-C oligodeoxynucleotides, prototype ODN 2395; 200 nmol
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