



PRODUCT DATA SHEET

Product: Anti-TLR9 mAb, clone 5G5

Cat. No.: MC-191 (1 mL)

Description:

Toll-like receptors (TLR) are highly conserved throughout evolution and have been implicated in the innate defense of many pathogens. In *Drosophila*, toll is required for the anti-fungal response, while the related 18-wheeler is involved in antibacterial defenses. In mammals, TLR identified as type I transmembrane signalling receptors with pattern recognition capabilities, have been implicated in the innate host defense to pathogens.

As investigated so far, all functional characterized TLR signals via the TLR/IL-1 receptor (IL-1R) pathway where recruitment of MyD88 seems to be essential.

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.

Specificity:

Reacts with mouse TLR9. Weak cross-reactivity with human TLR9.

Ig Isotype:

Mouse IgG_{2a}

Species Reactivity:

Mouse and human. Others not tested.

Format:

1 mL of 100 µg/mL 0.2 µm filtered monoclonal antibody solution in PBS containing protein stabilizer and 0.02% sodium azide.

Storage:

Store at 4 °C.

Applications and Suggested Dilutions:

- Flow cytometry: Use at approximately 1:50 dilution.
- Immunoassays: (detection antibody) Use at approximately 1:50 dilution.
- Immunohistochemistry: (frozen / paraffin sections) stains RAW macrophages and TLR9 transfected HEK293 cells. Use at approximately 1:50 dilution.
- Western blot: Use at approximately 1:50 dilution.

The optimal dilution for a specific application should be determined by the researcher.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.