

**DESCRIPTION**

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived		
	Mouse TLR9 (Leu26-Asp818) Accession # AAK29625	IEGRMDP	Mouse IgG <sub>2A</sub> (Glu98-Lys330)
	N-terminus		C-terminus

<b>N-terminal Sequence Analysis</b>	Leu26
<b>Structure / Form</b>	Disulfide-linked homodimer
<b>Predicted Molecular Mass</b>	115.8 kDa (monomer)

**SPECIFICATIONS**

<b>SDS-PAGE</b>	140-170 kDa, reducing conditions
<b>Activity</b>	Measured by its ability to bind biotinylated CpG oligodeoxynucleotide, type B. The 50% maximum binding is achieved at 30-150 ng/mL of Recombinant Mouse TLR9 Fc Chimera. <b>Optimal dilutions should be determined by each laboratory for each application.</b>
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 100 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

TLR9 (Toll-like receptor 9), designated CD289, is a member of the TLR family of innate immune receptors that is mainly expressed by colonic epithelium, CD123<sup>+</sup> plasmacytoid dendritic cells (pDC), and splenic transitional B cells (1-9). TLR9 responds to unmethylated DNA CpG motifs that occur mainly in bacteria and viruses (1, 2). Mouse TLR9 cDNA encodes a 1032 amino acid (aa) type I transmembrane glycoprotein with a 793 aa extracellular domain (ECD) that contains 26 leucine-rich repeats (LRRs, aa 26-818), and a 193 aa cytoplasmic domain with a TIR sequence that dimerizes with signaling adaptors such as MyD88 (1). The mouse TLR9 ECD shares 87% aa sequence identity with rat and 71-74% with human, feline, canine, equine, porcine, bovine and ovine TLR9. Predicted splice forms vary at the N-terminus by initiating either upstream or downstream of the standard site. The full-length 150 kDa form, which is ligand-binding but non-signaling, is found in the endoplasmic reticulum. It undergoes accessory protein-mediated translocation either to the cell membrane or to lysosomes (1-3). TLR9 is cleaved to remove LRR1-14, producing an 80 kDa signaling fragment within acidic endolysosomes where it encounters microbial CpG DNA rather than self-DNA (2, 10, 11). However, immune complexes of self-DNA with lupus erythematosus anti-DNA antibodies can induce TLR9 activation and IFN-α production in pDC (4). A soluble form also found in endosomes includes all 26 LRRs and negatively regulates active TLR9 (12). Activation of TLR9 contributes to splenocyte proliferation, pDC maturation, macrophage inflammatory cytokine production, Th1 inflammatory responses, NK cell activation and recruitment, B cell surface MHC class II up-regulation and immunoglobulin production, and generation and maintenance of memory B cells (1, 5-9).

**References:**

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