

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived mouse TLR3 protein
Cys29-Leu705, with a C-terminal 6-His tag
Accession # Q99MB1

N-terminal Sequence Analysis Cys29

Predicted Molecular Mass 77.7 kDa

SPECIFICATIONS

SDS-PAGE 114-127 kDa, reducing conditions

Activity Measured by its ability to inhibit poly I:C induced IL-8 secretion by HEK293 human embryonic kidney cells transfected with TLR3. The ED₅₀ for this effect is 2-12 µg/mL in the presence of 0.2 µg/mL of poly I:C.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Mouse TLR3 is a 116 kDa type I transmembrane glycoprotein that belongs to the mammalian Toll-Like Receptor family of pathogen pattern recognition molecules (1, 2). There are at least eleven mouse and ten human members that activate the innate immune system following exposure to a variety of microbial species (3). The mouse TLR3 cDNA encodes a 905 amino acid (aa) precursor that contains a 25 aa signal sequence, a 680 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 179 aa cytoplasmic region (4). The horseshoe shaped ECD (5, 6) contains 23 leucine-rich repeats, and the cytoplasmic domain contains one Toll/IL-1 receptor (TIR) domain. The ECD of mouse TLR3 shares 90%, 79%, and 77% aa sequence identity with the ECD of rat, human, and bovine TLR3, respectively. TLR3 is found in phagosomes (7), where the acidic pH enables binding of internalized double stranded RNA and mRNA from viruses, parasites, and necrotic virally-infected cells (8-11). Ligand binding by TLR3 induces receptor dimerization (5, 6, 8), leading to the release of inflammatory cytokines and dendritic cell maturation (9, 11-13). Mouse TLR3 is expressed in dendritic cells, macrophages, microglia, and astrocytes (13-15), and is upregulated by IFN-β and LPS (9, 14). TLR3 expression is also induced on lung fibroblasts and epithelial cells by respiratory syncytial virus infection (12).

References:

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