

Flagellin Protein, Salmonella Typhimurium, Recombinant

General Information

Synonyms:	flaF;Phase 1-I flagellin;Flagellin;fliC;hag
Protein Construction:	Met1-Arg495
Species:	Salmonella typhimurium
Expression Host:	E. coli
Accession:	P06179
Molecular Weight:	45-65 KDa (reducing condition)
AA Sequence:	Met1-Arg495

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.001 ng/μg (0.01 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Flagellin is the major structural protein monomer of bacterial flagella. Flagellin through binding to its receptor and activation of antigen presenting cells stimulates the innate and adaptive immune responses. Flagellin is used as an effective systemic or mucosal adjuvant to stimulate the immune system. Flagellin is an agonist of Toll-like receptor 5 (TLR5), a pattern recognition receptor (PRR) of the innate immune system expressed on the basolateral surface of intestinal epithelial cells and on the surface of a subset of intestinal dendritic cells. Flagellin is delivered

into the cytosol of macrophages by the T3SS-1 of serotype Typhimurium, where it activates the cytosolic interleukin-1 (IL-1) converting enzyme-protease activating factor (IPAF), a nucleotide-binding and oligomerization domain-like receptor (NLR) of the innate immunesystem. Recognition of flagellin by IPAF leads to activation of the inflammasome, followed by proteolytic activation of IL-1 and IL-18.

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