Flagellin Control Protein - 000-001-C14

Code: 000-001-C14 **Size:** 100 µg

Product Description: Flagellin Control Protein - 000-001-C14

Concentration: 1.0mg/mL by UV absorbance at 280 nm

PhysicalState: Liquid (sterile filtered)

Label	Unconjugated
Gene Name	BBU94A_0149, fla
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer	None
Preservative	0.01% (w/v) Sodium Azide
Storage Condition	Store vial at -20 °C prior to opening. Aliquot contents and freeze at -20 °C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. Dilute only prior to immediate use.
Synonyms	41 kDa antigen, Borrelia burgdorferi p41, fla, Flagellar filament 41 kDa core protein, Bacterial flagellin, control protein
Application Note	Flagellin is suitable as a control in immunological assays. Specific conditions for reactivity should be optimized by the end user. Expect a band at 76.3 kDa Flagellin-MBP, (33.9 kDa for Flagellin and 42.4 kDa for MBP) in size corresponding to Flagellin by Western blotting in the appropriate cell lysate or extract.
Background	Flagellin is a protein found in the hollow cylinder forming the filament in bacterial flagellum. Its structure is helical, which is important for its function. Studies comparing a flagellate Borrelia to flagellated indicate that the flagella have a role in the invasion of human tissue. The N- and C-termini of flagellin form the inner core of the flagellar filament, and the central portion of the protein makes up the outer surface. While the terminus of the protein is quite similar between all bacterial flagellins, the central portion is variable. The flagellin genes are highly conserved among the different Borrelia species. Mammals often have acquired immune responses (T-cell and antibody responses) to flagellated bacterium. Some bacteria are able to switch between multiple flagellin genes in order to evade this response. Borrelia burgdorferi, the spirochete that is associated with Lyme Disease, may use this tactic when challenging mammals with infection. Borrelia have double-stranded linear plasmids in addition to supercoiled circular plasmids, in low copy number. This suggests that initiation of DNA replication and partitioning are carefully controlled during the cell division cycle. It is believed that expression of the various proteins associated with the spirochete may be regulated by the changes in tick life cycle, changes in conditions during tick feeding (such as temperature, pH, and nutrients) and/or in coordination with the course of infection of the mammal host, i.e., changes in environment as the spirochete migrates from the tick's midgut to its salivary glands to the mammal host. B. burgdorferi can attach to (and also differentially express antigens in) diverse tissues within the vertebrate host and the tick vector, suggesting that physiological factors other than pH and temperature may play roles in modulating B. burgdorferi gene expression. Lyme disease proteins are ideal for researchers interested in immunology, neurology, rheumatology, coinfections, autoimmune, and neurodegenerative diseases.
Purity And Specificity	Flagellin is a fusion protein with an MBP tag and was expressed in E. coli. Analysis by SDS-PAGE resulted in a pattern consistent with purified Flagellin and was estimated to be greater than 90% pure.
Assay Dilutions	Lateral Flow Assay: User Optimized
ELISA	User Optimized
Western Blot	User Optimized
Other Assays	Lateral Flow Assay: User Optimized
Expiration	Expiration date is six (6) months from date of opening.
General Reference	Laila Noppa, Nils Burman, Ariadna Sadziene, Alan G. Barbour and Sven Bergstrom (1995) Expression of the flagellin gene in Borrelia is controlled by an alternative c factor. Microbiology 141, 85-93. Wallich R, Moter SE, Simon MM, Ebnet K, Heiberger A, and M D Kramer MD. (1990) The Borrelia burgdorferi flagellum-associated 41-kilodalton antigen (flagellin): molecular cloning, expression, and amplification of the gene. Infect Immun. 58(6): 1711-1719. Panelius J, Lahdenne P, Saxen H, Heikkilä T, and Seppäla I. (2001) Recombinant Flagellin A Proteins from Borrelia burgdorferi Sensu Stricto, B. afzelii, and B. garinii in Serodiagnosis of Lyme Borreliosis. Journal of Clinical Microbiology, November 2001, p. 4013-4019, Vol. 39, No. 11.
Related Products	

200-401-C14 Anti-Flagellin (RABBIT) Antibody - 200-401-C14

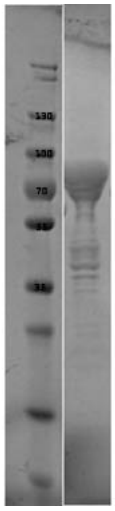
B501-0500	BLOTTO Immunoanalytical Grade (Non-Fat Dry Milk) - B501-0500
BSA-50	BOVINE SERUM ALBUMIN - Fraction V (Immunoglobulin and Protease Free) - BSA-50
MB-070	Blocking Buffer for Fluorescent Western Blotting - MB-070

Related Links

	UniProtKB - P11089
http://www.uniprot.org/uniprot/P11089	
NCBI - ZP_03087263.1	http://www.ncbi.nlm.nih.gov/protein/195941881?report=genbank&log$=prottop&blast_rank=2&RID=53HTGNHC012
	GeneID - 7106737

Images

1 SDS-PAGE of Flagellin Control Protein. Lane 1: Molecular Weight Marker. Lane 2: Flagellin Control Protein. Load: 10 µl at 1:6 dilution.Predicted/Observed size: 76.3 kDa fusion protein, 33.9 kDa for Flagellin, 42.4 kDa for MBP alone.



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