

Client: Example Client ABC123  
123 Test Drive  
Salt Lake City, UT 84108  
UNITED STATES

Physician: Doctor, Example

**Patient: Patient, Example**

**DOB** 2/8/2018  
**Gender:** Male  
**Patient Identifiers:** 01234567890ABCD, 012345  
**Visit Number (FIN):** 01234567890ABCD  
**Collection Date:** 00/00/0000 00:00

**Toll-Like Receptor Function**

ARUP test code 0051589

Toll-Like Receptor Function

See Note

**H=High, L=Low, \*=Abnormal, C=Critical**

This test requires the submission of a client control sample to determine whether abnormal results observed in the patient sample are due to artifacts of specimen collection, transport, and/or handling, or patient condition. Abnormal patient results in the absence of a client submitted control sample should be correlated clinically and interpreted with caution.

TNF-a (pg/ml)

	PATIENT	CLIENT CONTROL	LAB CONTROL
Media	0	2	2
PAM3CSK4	46	245	222
Zymosan	72	589	768
Flagellin	95	855	831
CLO97	181	1321	1892
LPS	158	1354	1707

IL-1b (pg/ml)

	PATIENT	CLIENT CONTROL	LAB CONTROL
Media	0	0	1
PAM3CSK4	17	114	172
Zymosan	55	551	1460
Flagellin	69	698	841
CLO97	183	1823	2852
LPS	107	1699	3792

IL-6

	PATIENT	CLIENT CONTROL	LAB CONTROL
Media	1	3	3
PAM3CSK4	403	4832	7581
Zymosan	106	980	1196
Flagellin	646	6537	>10240
CLO97	327	2929	3874
LPS	879	>10240	>10240

**Interpretation:**  
Decreased cytokine responses to TLR 1,2,4-8 stimulation compared to simultaneously run controls. Suggest repeat testing.



The following reagents stimulate corresponding TLR ligands:

PAM3CSK4:	TLR2 and TLR1
Zymosan:	TLR2 and TLR6
Flagellin:	TLR5
CLO97:	TLR7 and TLR8
LPS:	TLR4

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**INTERPRETIVE INFORMATION: Toll-Like Receptor Function**

Toll-like receptors (TLR) are tested independently by stimulation with TLR-specific ligands in a peripheral blood mononuclear cell (PBMC) culture. PBMC production of IL-1 beta, IL-6, and TNF alpha is determined by multiplex bead assay for TLR 1,2,4-8.

TLR-specific ligands include Pam3CSK4, a synthetic bacterial lipoprotein (TLR2-TLR1 ligand); zymosan cell wall particles from *Saccharomyces cerevisiae* (TLR6-TLR2 ligand); lipopolysaccharide (LPS) ultra-pure *S. minnesota* LPS (TLR4 ligand); flagellin purified from *S. typhimurium* (TLR5 ligand); and CL097 imidazoquinoline compound (TLR7-TLR8 ligand).

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This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**VERIFIED/REPORTED DATES**

Procedure	Accession	Collected	Received	Verified/Reported
Toll-Like Receptor Function	23-013-400323	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

**END OF CHART**

**H=High, L=Low, \*=Abnormal, C=Critical**