Supplemental Materials

S1. A list of biomarkers that were evaluated and their reported roles in inflammation and immune response.

MARKER	ROLE IN INFLAMMATION
C5a	Chemoattractant, activates phagocytes, anaphylotoxin, aggregates neutrophils and platelets [1]
CD40L	Mediates B cell proliferation and Ig class switching
G-CSF	Stimulates neutrophil development and granulocyte release [2,3]
GM-CSF	Stimulates polymorphonuclear cells, differentiation of hematopoietic cells [2,3]
GROα	Neutrophilic chemoattraction and infiltration [3,4]
I-309	Chemotaxis of monocytes, intracellular Ca^{2+} mobilization [4,5]
sICAM-1	Adhesion and transmigration of leukocytes [6]
IFN-γ	Enhances MHC class I and class II expression, macrophage activation [2,3,7]
IL-1α & IL-1β	Induces CD4 T cell differentiation, proliferation of mature B cells, PGE_2 synthesis, mast cell histamine release, induces IL-2 expression [2,3]
IL-1ra	Inhibits IL-1 by competitive binding to IL-1 receptor [2,3,7]
IL-2	Activates T cells, NK cells, and B cells, class II MHC expression [2,3,7]
IL-4	Stimulates B/T-cell proliferation, suppresses development of Th1 cells, promotes Ig class switching, antagonizes IFN-γ expression, anti-inflammatory, suppresses macrophage cytotoxicity [2,3,7]
IL-5	Eosinophil differentiation and activation, Ig class switching, B cell proliferation, anti-inflammatory [2,3,7]
IL-6	Stimulates acute phase protein synthesis, inhibits pro-inflammatory cytokines, promotes activation and differentiation of plasma cells and T-cells [2,8]
IL-8	Chemoattracts leukocytes to inflammation sites, upregulates adhesion molecules expression and adherence of leukocytes to endothelial cells [3,4]
IL-10	Inhibits IFN-γ production by NK cells and activated T-cells, dampens Th1 response, inhibits synthesis of IL-1β and NFKB nuclear translocation [3,7]
IL-12p70	Enhances cytotoxic T-cell and NK cell proliferation and cytotoxicity, increases IFN-γ production in T cells and NK cells, inhibits IgE release from B cells [3,7]

IL-13	Inhibits inflammatory cytokine production, induces Ig class switching to IgG_4 and IgE, attenuates macrophage activation [3,7]
IL-16	Chemotaxis of CD4 T lymphocytes [2,9]
IL-17	Stimulates IL-6, IL-8, and ICAM expression [2,10]
IL-17E	Induces pro-inflammatory cytokine response, increase serum IgE and IgG_1 production, NFKB activation [11]
IL-23	Activation of CD4 memory T-cells, induces IL-17 and IL-6, pro-inflammatory [12]
IL-27	Stimulates proliferation of naïve CD4 T-cells, Ig class switching, induces T-bet and IL-12R expression in naïve T cells [13]
IL-32α	Activation of P38 MAPK and NFKB pathways, induces secretion of pro-inflammatory cytokines such as TNF-α and MIP-2 [14]
IP-10	T-cells, NK cells, and monocytes chemoattractant, promotes T-cell adherence to endothelial cells [2,4]
I-TAC	Th1 inflammation, recruits activated T-cells to site of inflammation [15]
MCP-1	Chemotactic activation and migration of leukocytes to site of infection, stimulates histamine release [2,3,7]
MIF	Activates production of macrophages, induces TNF-α production [16]
MIP-1α	Chemotactic activation and migration of leukocytes to sites of inflammation, inhibits proliferation of early hematopoietic stem cells [2,3,7]
MIP-1β	Chemotactic activation and migration of lymphocytes to sites of inflammation [2,3,7]
PAI-1	Extracellular matrix proteolysis, cellular adhesion and migration, inhibitory role in fibrinolytic system [17]
RANTES	Chemotactic activation and migration of leukocytes to sites of inflammation, stimulates histamine release [2,3,7]
SDF-1	Chemoattractant for lymphocytes, progenitor cell development in bone marrow [4]
TNF-α	Stimulation of PGE_2, stimulates acute and chronic inflammation, induces apoptosis, induction of acute phase reactant proteins [2,18]
sTREM-1	Release of IL-8, MCP-1, TNF-α, induces neutrophil degranulation [19]

S2. Serum (A) and fecal (B) concentrations (in pg/ml) of key inflammatory markers detected in IBS patients and healthy volunteers.

A. Serum concentrations

INFLAMMATORY MARKER	HEALTHY CONTROL N= 40			IDIOPATHIC-IBS N= 44			POST-INFECTIOUS-IBS N= 16		
	MEAN	MEDIAN	RANGE	MEAN	MEDIAN	RANGE	MEAN	MEDIAN	RANGE
MCP-1	295±17.5	283.6	102-576.2	454±30.1	390.6	114-955.0	467±61.5	421.3	212.3-1170
MIP-1β	47±3.6	45.2	1-111.1	220±22.8	213.3	28-579.5	216.2±38	173.3	41-462.3
IFN-γ	29±1.7	32.4	0.1-47.5	49±5.6	37.2	7-184.3	64±14.7	40.6	30-238.9
TNF-α	22.8±0.9	24.5	0.2-30.4	34±3.9	27.0	1-129.1	36±5.6	27.0	23-86.1
IL-1β	5.3±0.3	5.4	0.02-10.3	9.8±1.5	5.8	4-53.1	10.2±2.5	6.0	4.7-36.6
IL-10	11.3±0.8	13.1	4.4-20.1	5.1±0.3	5.3	0.1-10.1	6.5±0.6	5.6	3.6-13.2
CXCL16	873±0.07	947	11-1544	2915±240	2966	543-4608	2908±126	2830	1196-5213

B. Fecal concentrations

INFLAMMATORY MARKER	HEALTHY CONTROL N= 20			IDIOPATHIC-IBS N= 20			POST-INFECTIOUS-IBS N= 10		
	MEAN	MEDIAN	RANGE	MEAN	MEDIAN	RANGE	MEAN	MEDIAN	RANGE
MCP-1	149.6±18	137.2	25-361.6	305±24	289.2	113.9-464	235.9±26	222.5	112-369
MIP-1β	85.6±10	74.0	20-149.8	170.4±11	178.0	88-312.8	145.9±10	137.8	100-199.7
IFN-γ	20.2±1.4	22.0	40.3-31.7	41.7±7.3	28.9	24.5-156	35.9±5.7	29.6	21-73.6
TNF-α	14.8±1.9	18.4	1.4-24.0	24±1.7	20.5	18.2-48.0	26.5±5.7	20.2	16.1-77.1
IL-1β	5.3±0.4	4.9	2.1-9.4	7.4±1.5	4.5	3-28.9	7.7±1.6	4.9	3.7-24.8
IL-10	10.1±1.6	7.6	4.5-37.9	4.6±0.6	5.1	0.02-12.5	4.8±1.1	5.1	0.02-15.7
CXCL16	405±64.5	327	48-952	2150±163	2066	1165-3978	1733±351	1852	1200-5200

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