

## **SUPPLEMENTARY INFORMATION**

### **Sterile Post-traumatic Immunosuppression**

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**Supplementary Table S1 : Levels of Biomarkers in Wound Blood**

Type of Surgery	Collection Period	C3	C5	IL-1 $\beta$	IL-2	IL-4	IL-5	IL-6	IL-8	IL-10	IL-12	IL-13	IL-17	IL-1RA	TNF- $\alpha$	IFN- $\gamma$	MCP-1	MIP-1 $\alpha$	PGE2	sIL-6R	Platelet count	References	
AAA	post	INC		INC				INC	INC						INC							1	
THA	post	INC		INC				INC	INC						INC								1
THA	intra	INC	INC	N.D.				INC	INC						N.C.								2
THA	intra	INC						INC	INC						INC								3
artery bypass	post	INC	INC	INC				INC	INC						INC								4
CPB	post	INC		INC				INC		INC													5
TKA	post	INC																					6
TKA, THA	post		INC					INC	INC														7
Spine surgery	post			INC				INC															8
Thoracic scoliosis	post			INC	N.D.			INC		INC				INC	N.C.					DEC			9
THA	post			INC		INC		INC	INC														10
TKA, THA	post			INC		INC		INC	INC														11
THA	post			INC				INC	INC						INC								12
TKA	post			INC				INC															13
THA	post			N.C.				INC		DEC					N.C.								14
THA	post			N.C.	N.C.	N.C.	N.C.	INC	INC	N.C.	N.C.	N.C.	N.C.	INC									15
CABG	post							INC															16
CPB	post							INC															17
Thoracic scoliosis	post							INC															18
TKA	post							INC		INC					INC								19
TKA	post							INC															20
TKA, THA	post							INC															21
TKA	post							INC							N.C.								22
TKA	post							INC															23
TKA	post							INC	INC														24
THA	post								INC							N.C.	INC	N.C.					25
Thoracic scoliosis	post		INC																				26
CPB	post																			INC			27
THA	post																			INC			28
surgery	post																					DEC	29
Cardiac surgery	post																					DEC	30
TKA, THA	post																					DEC	31
TKA, THA	post																					DEC	32
Cardiac surgery	post																					INC	33
aortic surgery	intra																					INC	34
CPB	post																					INC	35
aortic surgery	intra																					INC	36

Here AAA = Abdominal aortic aneurysm, THA = Total Hip Arthroplasty, TKA = Total Knee Arthroplasty, CABG = Coronary Artery Bypass Grafting, CPB = Cardio Pulmonary Bypass, h = hour. C = Complement; IL-(1 $\beta$ ) = Interleukin-(1-beta); IL-1RA = IL-1 Receptor Antagonist; TNF = Tumour Necrosis Factor; IFN = Interferon; MCP = Monocyte Chemotactic Protein; MIP = Macrophage Inflammatory Protein; PGE2 = Prostaglandin E2; sIL-6R = Soluble IL-6 Receptor. INC = increase, DEC = Decrease, N.C. = No Change, N.D. = Not Detectable

**Supplementary Table S2 : Levels of Biomarkers Postoperatively Following Major Surgery**

Surgery Type	No. of Patients	Postop days	IL-1 $\beta$	IL-2	IL-4	IL-5	IL-6	IL-8	IL-10	IL-12	IL-13	IL-17	IL-22	IL-1RA	IFN- $\gamma$	TNF- $\alpha$	MCP-1	MIP-1 $\alpha$	sCD-14	sIL-6R	HMGB-1	HSP-27	HSP-60	HSP-70	References	
CPB with SIRS	12	1d, 2d	DEC				INC	N.C.																	37	
primary breast cancer surgery	32		DEC																							38
CPB	30	1 d, 2 d	DEC	DEC			INC	INC	INC							DEC										39
reconstructive surgery	14	6 h	INC	N.C.			INC	INC																		40
CABG	13	after surgery	INC				INC	INC																		41
THA	30	1	INC	DEC			INC		INC																	42
CPB		4h, 1 d	INC at 4h				INC																			43
TKA	20	1, 6, 24, and 48 h	N.C.				INC																			13
CABG	32	1 d	N.C.				INC									N.C.										44
Abdominal Surgery		1d, 2d, 3d	N.C.				INC	INC																		45
Coronary stenting		1,2,6 h	N.C.				INC									N.C.										46
THA	7	1, 3 d	N.C.				INC		N.C.										INC							47
TKA		3 days	N.C.				INC									N.C.										48
CABG with CPB	78	24 h till 3 d	N.C.				INC	INC								N.C.										49
CABG	10	3, 6, and 24 h	N.C.				INC	N.C.								N.C.										50
TJA	10	4 h	N.C.				INC		N.C.							N.C.										14
CPB		1,2,3, d etc	N.C.				INC		INC 1d							N.C.										51
pyeloplasty	31	1d, 2d	N.C.				INC	N.C.	N.C.							N.C.										52
TKA	85	2,3,5	N.C.				INC	N.C.	N.C.							N.C.										53
cardiac surgery	57	1 d	N.C.				INC	INC		INC					N.C.											54
Pancreatico-duodenectomy	22	1d, 3d	N.C.				INC	INC	INC 1d					INC		N.C. 1d, DEC 3d										55
THA	13	3 days	N.C.				INC	N.C.	N.C.	N.C.						N.C.										56
open thoracic surgery	63	1d	N.C.				INC	N.C.	N.C.	N.C.						N.C.										57
cardiac surgery	274	day of op, 1 d	N.C.	N.C.	N.C.	N.C.	INC	INC	INC op. day, N.C. 1d						N.C.											58
CPB	38	1d	N.C.				INC	INC	INC	N.C.					N.C.		N.C.	N.C.								59
THA	7	1d	N.C.	N.C.	N.C.	N.C.	INC	N.C.	N.C.	N.C.	N.C.	N.C.		N.C.												15
TKA	35	24h (next morning)	N.C.	N.C.	N.C.	INC	INC	INC	INC	N.C.	N.C.				N.C.	DEC										60
Cardiac	24	1, 3 d	N.D.													N.D.										61
Lung transplantation	20	1,2,3,4 d etc	N.D.				N.D.	N.D.																		62

Here THA = Total Hip Arthroplasty, TKA = Total Knee Arthroplasty, TJA = Total Joint Arthroplasty, CABG = Coronary Artery Bypass Grafting, CPB = Cardio Pulmonary Bypass; D = Day, h = hour. IL-(1 $\beta$ ) = Interleukin-(1-beta); IL-1RA = IL-1 Receptor Antagonist; IFN = Interferon; TNF = Tumour Necrosis Factor; MCP = Monocyte Chemotactic Protein; MIP = Macrophage Inflammatory Protein; HMGB = High Mobility Group Protein; INC = increase, DEC = Decrease, N.C. = No Change, N.D. = Not Detectable

Surgery Type	No. of Patients	Postop days	IL-1 $\beta$	IL-2	IL-4	IL-5	IL-6	IL-8	IL-10	IL-12	IL-13	IL-17	IL-22	IL-1RA	IFN- $\gamma$	TNF- $\alpha$	MCP-1	MIP-1 $\alpha$	sCD-14	sIL-6R	HMGB-1	HSP-27	HSP-60	HSP-70	References	
CABG	12	20 min, 1 d	N.D.				INC		INC							N.D.										63
cardiac surgery	19	after surgery	N.D.				INC									N.D.					N.C.					64
heart valve replacement	10	1d, 3d, 7d		DEC																						65
Reperfusion Injury				DEC																						66
CABG	24	1 d		DEC						DEC at 6h																67
CABG / CPB	20	2 d		DEC			INC	INC																		68
thoracotomy	47	1d, 2d		DEC	DEC		INC		INC							DEC										69
CABG	250	1 d		INC																						70
CABG	15	1d	N.D.	N.D.			INC	INC	N.C.					N.C.		N.D./N.C.										71
CPB	16	16 h			INC									N.C.												72
gastric resection or gastrectomy		3h			INC		INC		INC																	73
CABG	16	1 d			N.C.		INC	INC	N.C.					N.C.												74
cardiac surgery	25	1d, 3d, 5d				INC 3d, 5d	INC 1d, N.C. 5d		INC 1d, N.C. 5d					N.C.		INC 1d, N.C. 5d										75
THA		2 days					INC																			76
open heart surgery		every hour for few days					INC																			77
THA	10	24 h					INC													DEC						78
CABG	20						INC																			79
TJA	30	1 h					INC																			80
abdominal and thoraco-abdominal surgery	18	1d, 3d					INC																			81
TKA	81	6 h					INC																			82
THA							INC																			83
CPB	21	1d					INC																			84
thoracic surgery	29	1d					INC																			85
major surgery for colon cancer		3h, 1 d					INC																			86
TKA	49	1 d					INC																			87
Pneumonectomy	46	1d					INC																			88
cardiac surgery	12	1d					INC									N.C./N.D.										89
Diff Surgery		1d, 2d					INC	INC																		90
CABG	15	1 d					INC									N.C.										91
major operations	28	36h					INC									N.D.										92

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Surgery Type	No. of Patients	Postop days	IL-1 $\beta$	IL-2	IL-4	IL-5	IL-6	IL-8	IL-10	IL-12	IL-13	IL-17	IL-22	IL-1RA	IFN- $\gamma$	TNF- $\alpha$	MCP-1	MIP-1 $\alpha$	sCD-14	sIL-6R	HMGB-1	HSP-27	HSP-60	HSP-70	References
TJA	13						INC	INC																	11
CPB	18	1d					INC										N.C.								93
THA	12	4 h					INC									N.C.									94
cardiac surgery	30	1d, 3d					INC	N.C./INC																	95
cardiac surgery	108	1d, 3d					INC	INC																	96
cardiac surgery	93	1d					INC										N.C.								97
Abdominal hysterectomy		1d					INC		N.C.																98
laparoscopy and laparotomy	40(25/15)	1d, 2d					INC		INC 1d																99
lung cancer surgery	27	1d, 3d					INC							INC											100
major lung resection	33	1d, 3d					INC							N.C.											101
TKA	20	12h, 1d, 2d					INC									N.C.									22
TKA	11	36 h					INC	INC																	24
CPB	44	2d					INC	INC																	102
CPB	250	1d					INC									INC									103
esophagectomy for squamous cell carcinoma	11	1d					INC	INC																	104
laparoscopic cholecystectomy	17	1d, 2d					INC		INC																105
CPB	20	6h, 18 h					INC		INC																106
radical prostatectomy	165	1d					INC		INC																107
femoral nailing	59	1d, 2d					INC	INC	INC																108
esophagectomy	20	postop					INC	INC	INC																109
CPB	16	1d					INC		INC							N.C.									110
major abdominal surgery	26	12h, 3d					INC		INC 12h							N.C.									111
cardiac surgery	15	1d, 2d, 5d					INC									N.C.	N.C.								112
CABG	44	1d, 2d					INC	INC								N.C.									113
cardiac surgery	92	3d					INC	INC						INC											114
TKA	9	4h					INC		N.C.							N.C.									23
esophagectomy	29	1d					INC		INC					INC											115
CPB	25	1d, 2d					INC		INC				INC			INC									116
spine surgery	10	1d, 3d					INC	INC	INC					INC											117
abdominal surgery	40	1d, 2d					INC	INC 1d	INC							INC 1d									118
cardiac surgery	15	1d, 2d					INC	INC 1d, N.C. 2d								N.C.	INC 1d, N.C. 2d								119

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Surgery Type	No. of Patients	Postop days	IL-1 $\beta$	IL-2	IL-4	IL-5	IL-6	IL-8	IL-10	IL-12	IL-13	IL-17	IL-22	IL-1RA	IFN- $\gamma$	TNF- $\alpha$	MCP-1	MIP-1 $\alpha$	sCD-14	sIL-6R	HMGB-1	HSP-27	HSP-60	HSP-70	References
valvular heart surgery	24	1d, 2d					INC	INC	INC							INC									120
CABG	54	1d, 3d, 7d					INC										N.C.								121
CABG with CPB	20	1d						INC	INC							INC									122
CABG without CPB	8							INC	INC					INC											123
CPB	24	1 d						N.C.																	124
THA	7	4h, 1 d						N.D.							DEC		INC 4h, N.C.1 d	DEC							25
cardiac surgery	92	3d							INC																114
thoracic scoliosis	8	1, 2, 4, and 6 h							INC					INC											125
abdominal aortic surgery	37	1 d								DEC															126
CABG	30	1d									N.C.														127
cardiac surgery	34	1 d									N.C.														128
cataract surgery		1d										N.D.													129
orthotopic heart transplantation		2d, 5d												INC											130
Operation															DEC										131
CABG	20	1d															INC		INC						132
CPB	40	1d																	INC						133
transthoracic esophagectomy	24	1d, 2d																			INC				134
blunt trauma	20	3d																			INC				135
gastrointestinal surgery	28	3d																			INC				136
General Elective Surgery	37	3d																			INC				137
thoracic aortic aneurysm (TAA) repair	20	2d																			INC				138
CABG	40	1d																				N.C.	DEC	N.C.	139
CABG	8	1h, 1d																						INC	140
CABG	20	19h, 43h																						N.C.	141

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