



Figure S1. Additional biomarkers of osteoarthritic inflammation. The level of leukemia inhibitory factor, oncostatin-M, IL-7, IL-13, IL-22 and IL-31 was significantly elevated in response to IL-1 $\beta$  treatment. Hyperacute serum affected only the concentration of VEGF-A and IL-33 (Part A.), n= 12. The significance level was p < 0.05, where \* means that p is between 0.01 and 0.05, \*\* means that p is between 0.01 and 0.001, and \*\*\* means that p is lower than 0.001. Investigating the correlation of changes between day 0 and day 5, strong correlation was found between numerous pairs of cytokines. We considered the correlation very strong if r>0.75, and strong if 0.75>r>0.5 (Part B.), n=12.

Supplementary Table 1. The components of the co-culture supernatant and the osteoarthritic synovial fluid. Mean concentration of each cytokine in the two kind of samples was presented.

<i>Cytokines</i>	<i>Mean of concentration (ng/ml)</i>	
	<b>in vitro (ng/ml)</b>	<b>in vivo (ng/ml)</b>
<i>CD-163</i>	3706,666	2990,840
<i>SPARC/Osteonectin</i>	676,268	1421,979
<i>MMP-2</i>	181,201	402,497
<i>Fractalkine</i>	116,307	100,425
<i>OSM</i>	94,744	83,848
<i>MMP-1</i>	78,103	129,484
<i>CXCL-8/IL-8</i>	77,535	81,125
<i>MMP-9</i>	67,068	99,811
<i>CCL-3/MIP1a</i>	58,194	54,371
<i>CCL-2/MCP-1</i>	56,880	60,093
<i>IL-13</i>	54,276	51,338
<i>IL-23</i>	46,271	40,690
<i>Aggrecan</i>	43,427	45,421
<i>MMP-13</i>	35,785	40,323
<i>MMP-3</i>	28,135	30,413
<i>IL-1RA</i>	21,041	17,403
<i>IL1-β</i>	17,401	2,772
<i>IL-2</i>	12,035	11,226
<i>IL-6Rα</i>	10,535	40,776
<i>COL1A1</i>	9,697	33,893
<i>IL-12</i>	9,550	9,157
<i>IFN-γ</i>	8,576	7,638
<i>IL-18</i>	7,648	7,549
<i>Resistin</i>	7,373	7,181
<i>IL-31</i>	6,541	6,338
<i>TRANCE/RANKL</i>	6,246	5,494
<i>VEGF-A</i>	5,430	9,690
<i>LIF</i>	4,821	4,669
<i>IL-22</i>	3,545	3,545
<i>CCL-5/Rantes</i>	3,361	5,966
<i>EpCAM/TROP1</i>	2,916	3,296

<i>IL-33</i>	2,386	1,909
<i>IL-17A</i>	1,624	1,356
<i>IL-7</i>	1,146	1,189
<i>CXCL-10/IP-10</i>	0,970	0,754
<i>TNF-<math>\alpha</math></i>	0,857	0,607
<i>IL-4R<math>\alpha</math></i>	0,612	0,618
<i>IL-10</i>	0,511	0,427
<i>CCL-1/I-309</i>	0,434	0,416
<i>IL-15</i>	0,331	0,329
<i>IL-5</i>	0,108	0,108

Supplementary Table 2. The protein concentrations in human serum albumin treated co-culture supernatants. The mean concentration and standard error of mean (SEM) of each protein, measured on day 3 and day 5 was presented in this table.

<i>Cytokines</i>	<i>Mean of concentration (pg/ml)</i>			
	<b>Albumin, control day 3 (pg/ml)</b>	<b>SEM</b>	<b>Albumin, control day 5 (pg/ml)</b>	<b>SEM</b>
<i>Aggrecan</i>	41 791	2 601	44 170	1 659
<i>CCL-1/I-309</i>	417	9	403	5
<i>CCL-2/MCP-1</i>	36 341	6 961	28 249	6 558
<i>CCL-3/MIP1a</i>	56 344	1 022	55 415	1 014
<i>CD-163</i>	2 359 511	302 351	2 080 235	145 780
<i>COL1A1</i>	9 384	2 226	15 946	10 764
<i>Fractalkine</i>	101 186	2 412	96 228	1 642
<i>CXCL-10/IP-10</i>	584	33	563	54
<i>IFN-<math>\gamma</math></i>	8 494	239	8 281	190
<i>IL1-<math>\beta</math></i>	5 368	1 485	2 155	561
<i>IL-1RA</i>	16 091	3 007	15 433	3 399
<i>IL-2</i>	11 310	199	11 443	270
<i>IL-6R<math>\alpha</math></i>	8 596	945	13 364	5 600
<i>IL-10</i>	421	7	417	5
<i>IL-12 p70</i>	9 148	134	9 286	140
<i>IL-13</i>	49 752	687	47 954	734
<i>IL-15</i>	300	6	296	12
<i>IL-17A</i>	1 409	193	1 276	165
<i>IL-18</i>	7 405	88	7 578	100
<i>IL-23</i>	45 007	1 667	43 442	1 273

<i>IL-31</i>	6 253	48	6 140	73
<i>IL-33</i>	2 375	73	2 246	57
<i>LIF</i>	3 729	108	3 266	204
<i>MMP-1</i>	76 628	6 559	84 505	16 452
<i>MMP-2</i>	202 509	13 385	228 459	54 832
<i>OSM</i>	82 078	2 117	77 915	1 974
<i>Resistin</i>	7 222	132	7 146	107
<i>SPARC/Osteonectin</i>	594 120	46 465	675 913	240 283
<i>TNF-<math>\alpha</math></i>	590	27	596	32
<i>TRANCE/RANKL</i>	8 604	2 492	6 188	119
<i>CCL-5/Rantes</i>	3 277	263	3 517	339
<i>CXCL-8/IL-8</i>	75 482	2 613	73 968	2 455
<i>IL-4R<math>\alpha</math></i>	614	2	592	7
<i>IL-5</i>	108	0	108	0
<i>IL-7</i>	1 155	6	1 136	14
<i>IL-22</i>	3 531	10	3 447	38
<i>MMP-3</i>	28 697	247	27 820	568
<i>MMP-9</i>	79 403	11 364	78 537	15 459
<i>MMP-13</i>	36 895	731	36 608	622
<i>VEGF-A</i>	5 457	567	5 740	755

Supplementary Table 3. The components of hyperacute serum and human serum albumin containing medium. The mean concentration of the measured proteins in 10% hyperacute serum, and 5% human serum albumin containing culture medium was presented in this table.

<i>Cytokines</i>	<i>Mean of concentration (pg/ml)</i>	
	<b>Hyperacute serum containing medium (pg/ml)</b>	<b>Human serum albumin containing medium (pg/ml)</b>
<i>Aggrecan</i>	6785,508	198,682
<i>CCL-1/I-309</i>	19,270	0,000
<i>CCL-2/MCP-1</i>	200,819	21,508
<i>CCL-3/MIP1a</i>	2881,027	5,559
<i>CD-163</i>	135213,974	1091,271
<i>COL1A1</i>	360,290	32,691
<i>Fractalkine</i>	4649,019	120,716
<i>CXCL-10/IP-10</i>	17,349	0,485
<i>IFN-<math>\gamma</math></i>	438,833	0,583
<i>IL1-<math>\beta</math></i>	44,376	1,526

<i>IL-1RA</i>	200,674	1,225
<i>IL-2</i>	614,999	8,006
<i>IL-6R<math>\alpha</math></i>	3097,122	268,567
<i>IL-10</i>	19,517	1,774
<i>IL-12</i>	459,922	33,039
<i>IL-13</i>	2410,747	218,770
<i>IL-15</i>	12,111	1,075
<i>IL-17A</i>	87,949	0,000
<i>IL-18</i>	382,946	8,196
<i>IL-23</i>	2412,957	2,225
<i>IL-31</i>	304,853	1,133
<i>IL-33</i>	104,366	0,881
<i>LIF</i>	113,073	0,000
<i>MMP-1</i>	204,341	16,157
<i>MMP-2</i>	9416,864	1360,354
<i>OSM</i>	3268,440	266,980
<i>Resistin</i>	361,025	50,539
<i>SPARC/Osteonectin</i>	40571,472	180,257
<i>TNF-<math>\alpha</math></i>	24,744	2,064
<i>TRANCE/RANKL</i>	311,739	3,095
<i>CCL-5/Rantes</i>	588,443	92,465
<i>CXCL-8/IL-8</i>	7,277	2,464
<i>IL-4R<math>\alpha</math></i>	0,938	4,788
<i>IL-5</i>	5,339	0,000
<i>IL-7</i>	8,852	1,378
<i>IL-22</i>	105,286	8,693
<i>MMP-3</i>	76,393	4,783
<i>MMP-9</i>	3967,262	251,319
<i>MMP-13</i>	45,656	0,000
<i>VEGF-A</i>	101,643	23,477