

**Table S1.** Analysis of variance (two-factor ANOVA) for the mRNA expression levels of selected inflammatory genes in different times after infection as well as infection conditions.

		<i>Sum of Squares</i>	<i>Mean squares</i>	<i>F-ratio</i>	<i>p-value</i>
<b>IL-1<math>\beta</math></b>	Variable A	3022764.84	1511382.42	95.90	0.000001
	Variable B	2646493.40	1323246.70	83.96	0.000002
	A x B				
	Interaction	3007107.31	751776.83	47.70	0.000005
<b>IL-18</b>	Variable A	2.11	1.06	28.90	0.0001
	Variable B	3.42	1.71	46.70	0.00002
	A x B				
	Interaction	1.41	0.35	9.62	0.003
<b>IL-6</b>	Variable A	3111663.72	1555831.86	7.00	0.01
	Variable B	95960684.61	47980342.30	215.91	0.00000002
	A x B				
	Interaction	1770463.49	442615.87	1.99	<b>N.S.</b>
<b>IL-8</b>	Variable A	0.63	0.32	5.02	0.03
	Variable B	1.16	0.58	9.22	0.01
	A x B				
	Interaction	5.93	1.48	23.47	0.0001
<b>Caspase-1</b>	Variable A	930357.71	465178.86	32.12	0.0001
	Variable B	4016302.96	2008151.48	138.66	0.0000002
	A x B				
	Interaction	574740.66	143685.17	9.92	0.002

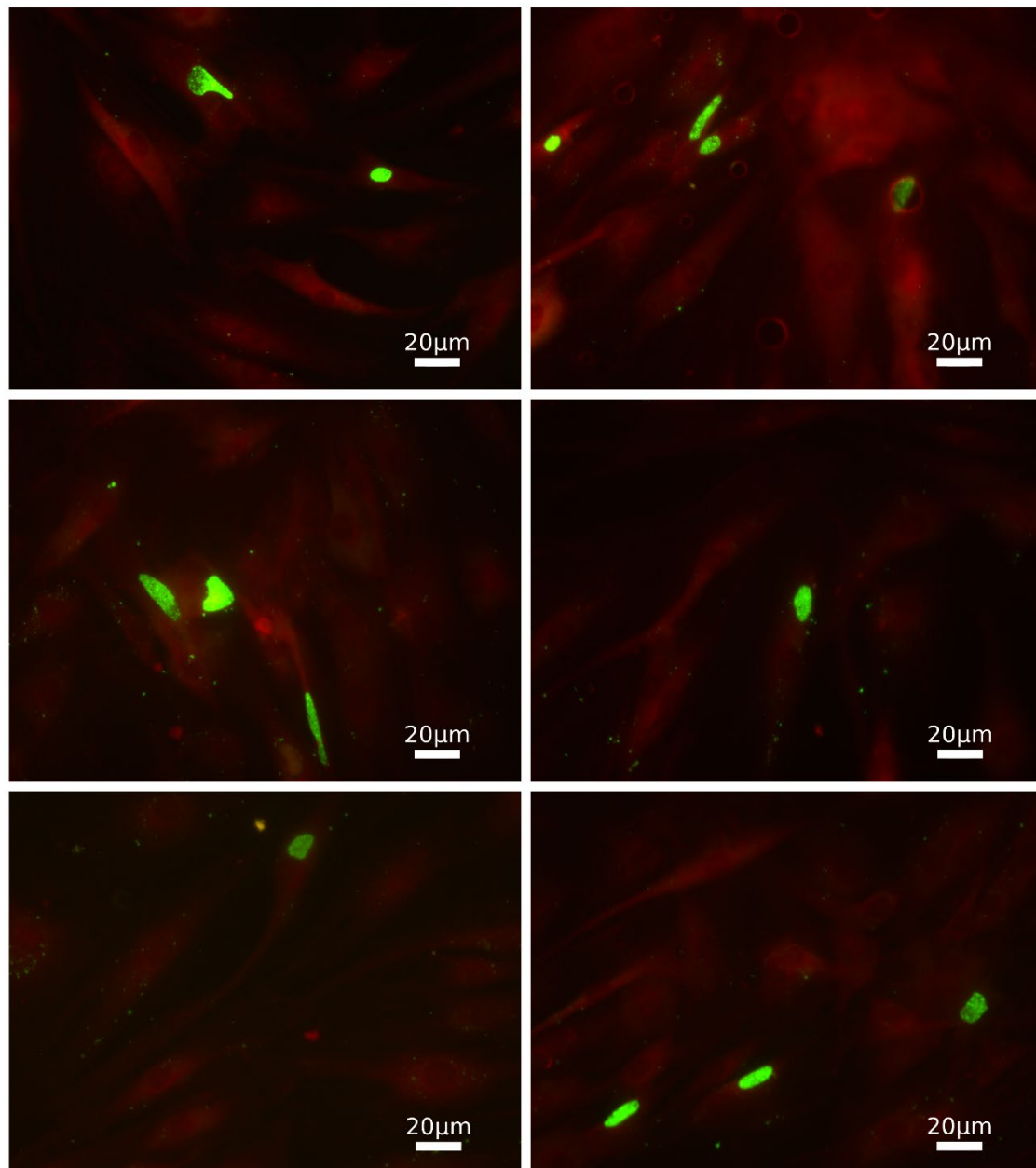
Variable A, hours post infection (6, 18 and 24 h.p.i.); Variable B, infection conditions (Synovial cells infected with *C. trachomatis*, *Chlamydia* infected cells pre-treated with IFN $\gamma$  and uninfected cells pre-treated with IFN $\gamma$ ); N.S., Not Significant.

**Table S2.** Analysis of variance (two-factor ANOVA) for the protein levels, via ELISA, of selected cytokines in different times after infection and infection conditions.

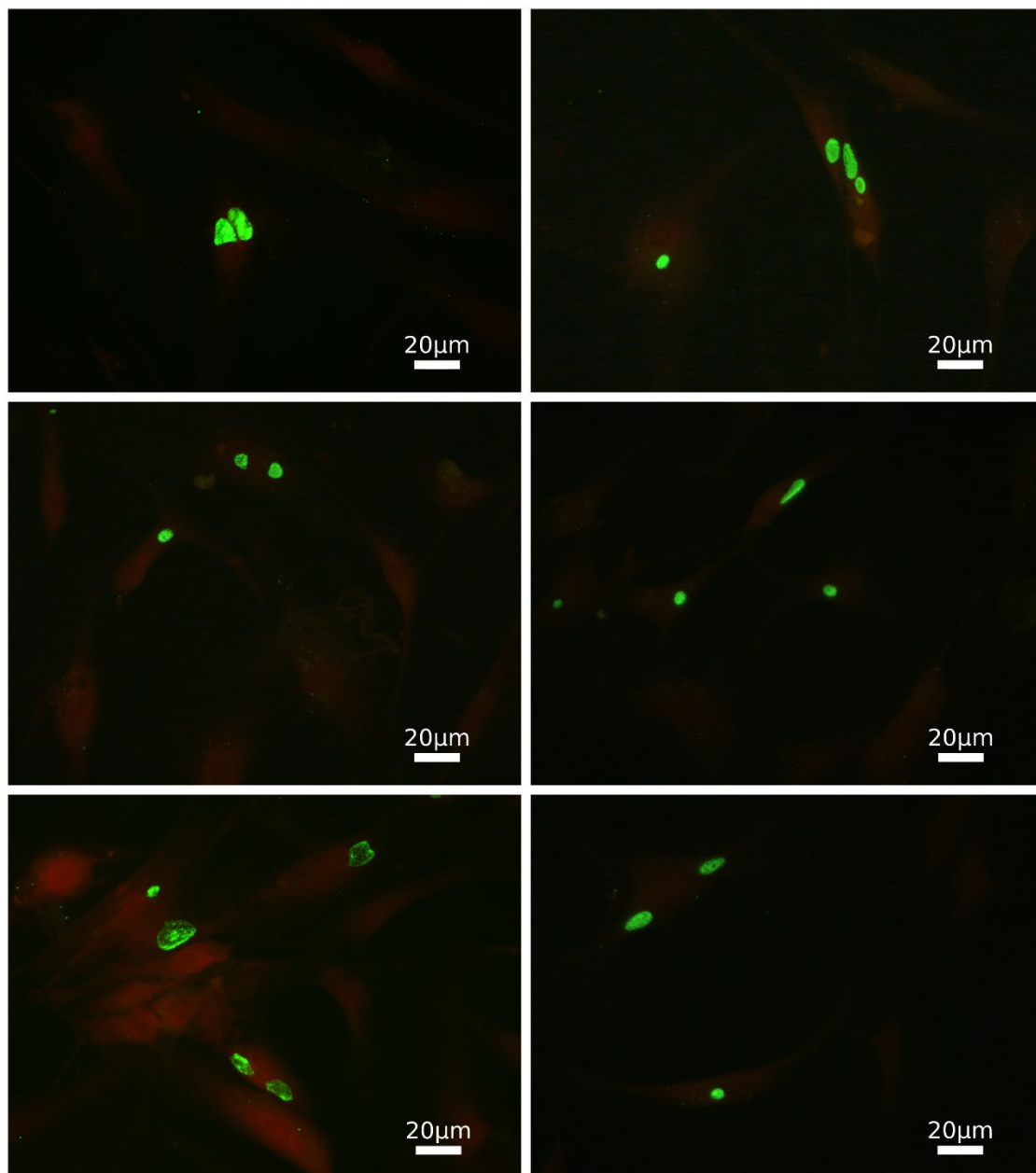
		<i>Sum of Squares</i>	<i>Mean squares</i>	<i>F-ratio</i>	<i>p-value</i>
<b>IL-1<math>\beta</math></b>	Variable A	10678.46	5339.23	44.00	0.00002
	Variable B	15530.99	7765.49	63.99	0.000005
	A x B Interaction	20855.96	5213.99	42.97	0.00001
<b>IL-18</b>	Variable A	0.09	0.047	2.77	<b>N.S.</b>
	Variable B	0.42	0.21	12.43	0.003
	A x B Interaction	0.16	0.04	2.39	<b>N.S.</b>
<b>IL-6</b>	Variable A	30.51	15.25	43.15	0.00002
	Variable B	11.28	5.64	15.94	0.001
	A x B Interaction	7.73	1.93	5.46	0.02
<b>IL-8</b>	Variable A	22.11	11.05	25.64	0.0002
	Variable B	22.35	11.17	25.91	0.0002
	A x B Interaction	42.28	10.57	24.51	0.0001

Variable A, hours post infection (6, 18 and 24 h.p.i.); Variable B, infection conditions (Synovial cells infected with *C. trachomatis*, Chlamydia infected cells treated with IFN $\gamma$  and uninfected cells treated with IFN $\gamma$ ); N.S., Not Significant.

**Figure S1.** Fluorescence microscopy pictures of *C. trachomatis* inclusion morphology in primary human synovial cells. Cells were infected with *C. trachomatis* at a MOI of 1.0 and stained with a FITC-conjugated anti-*C. trachomatis* MOMP monoclonal antibody (Chlamydia Cell kit, Cellabs, Sydney, AU), as described in Materials and Methods. All pictures were taken at 36 h.p.i.



**Figure S2.** Fluorescence microscopy pictures of *C. trachomatis* inclusions in primary human synovial cells. Cells were infected with *C. trachomatis* at a MOI of 1.0 and stained with the primary antibody anti-*C. trachomatis* LPS monoclonal antibody (Mab29, CT601, Chlamydia Biobank, UK) combined with a goat anti-Mouse IgG antibody conjugated with Alexa Fluor Plus-488 (Invitrogen, Thermo Fisher Scientific, USA). Wheat Germ Agglutinin conjugated with Alexa Fluor-594 (Invitrogen, Thermo Fisher Scientific, USA) was used for counterstaining cell monolayer. All pictures were taken at 36 h.p.i.



**Figure S3.** Effect of pan-caspase inhibitor Z-VAD-FMK on primary human synovial cell viability. **(a)** MTT assay; **(b)** Viable cell count assay.

