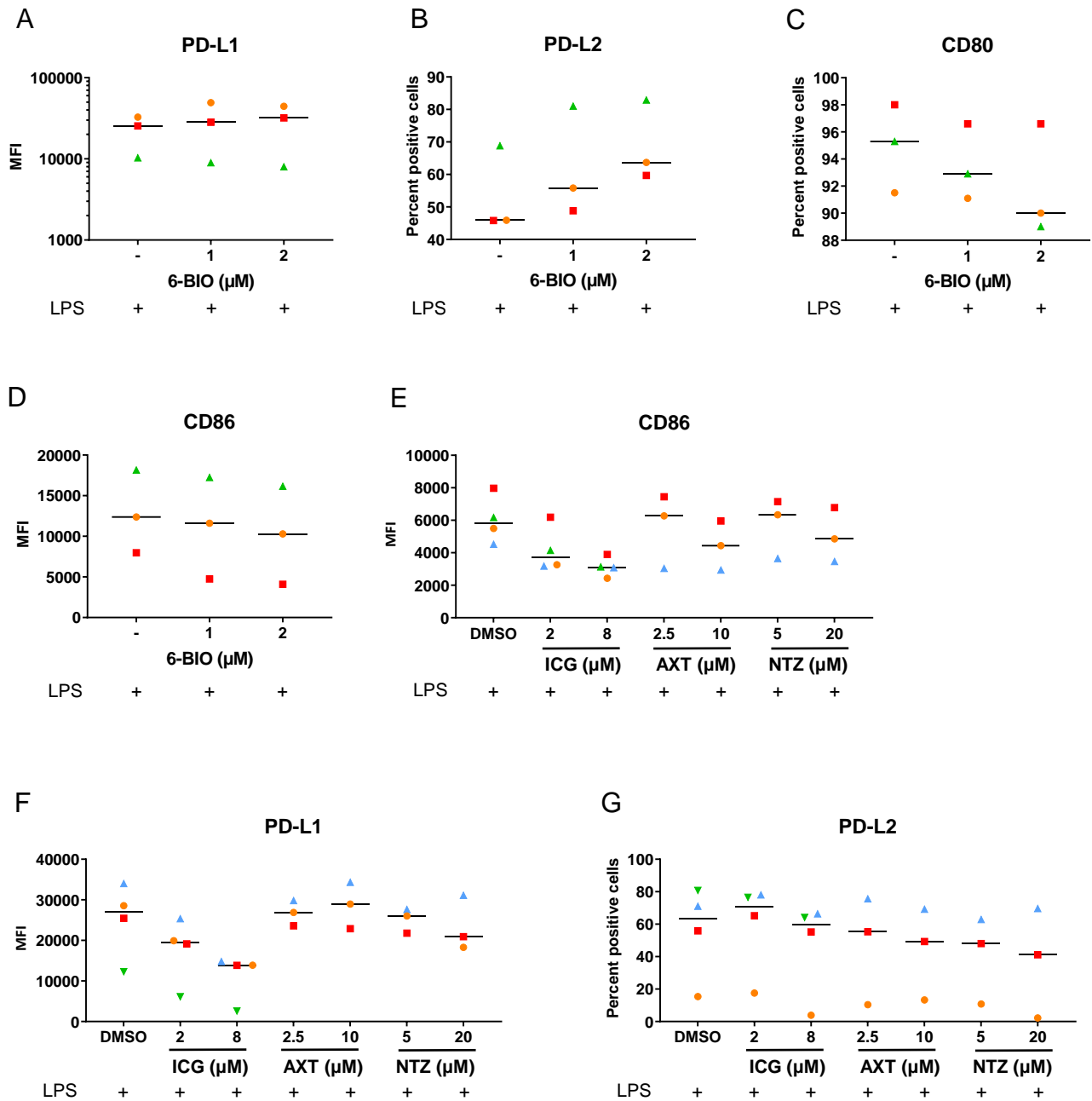
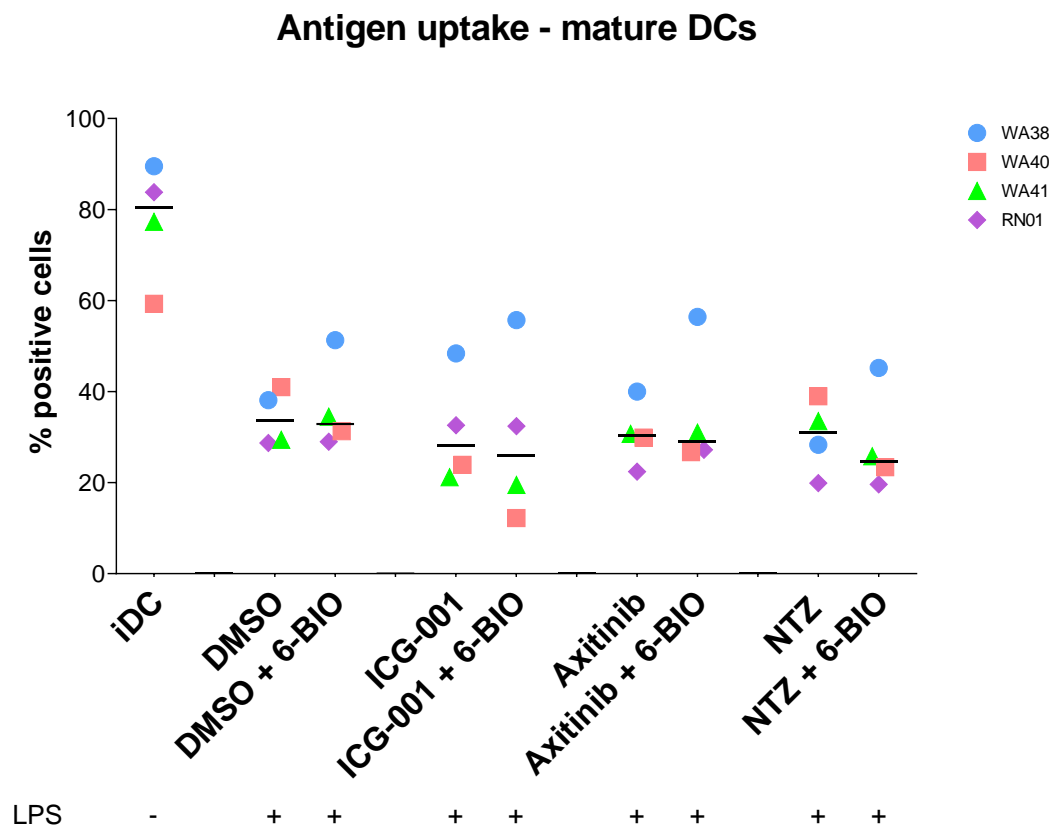


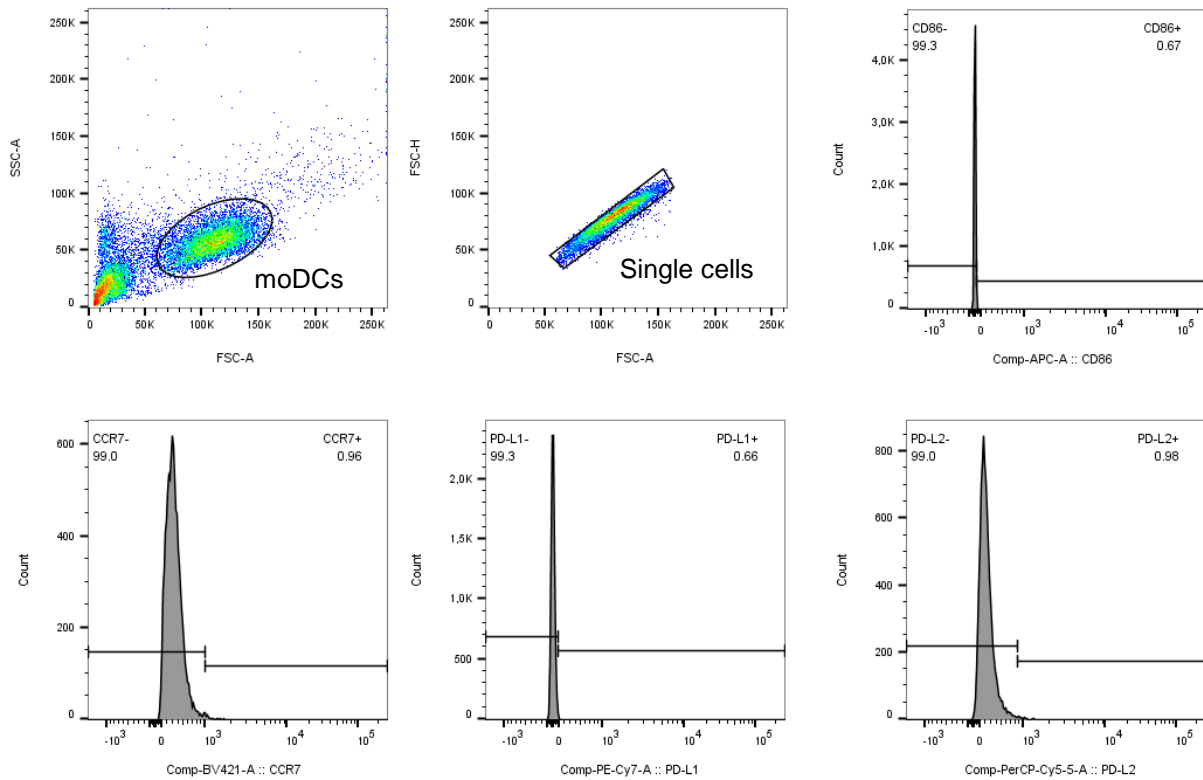
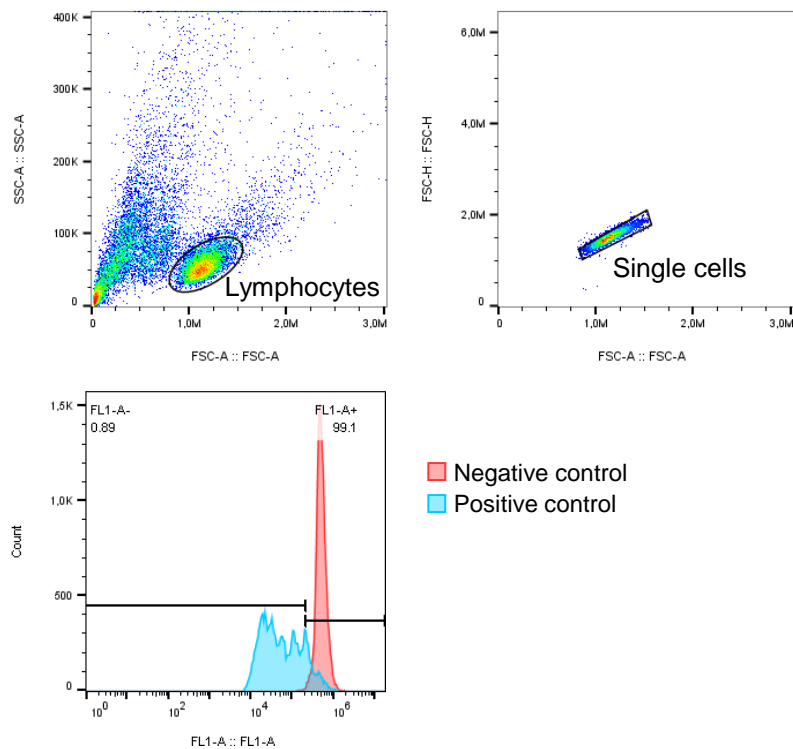
Supplementary Materials



Supplementary Figure 1. moDCs obtained from healthy donors were treated with indicated concentration of 6-BIO or β -catenin inhibitors (type and concentrations as shown) for 24 hours. DMSO (vehicle) served as mature moDCs control and cells were treated with LPS for the last 23 hours. A - G) cell surface marker was measured with flow cytometry and shown as change of percentage of positive cells or median fluorescence intensity (MFI). Each symbol represents a different donor and lines represent the median.



Supplementary Figure 2. Antigen uptake assay. moDCs obtained from healthy donors were treated with indicated β -catenin inhibitors (ICG-001 4 μ M, axitinib 10 μ M, nitazoxanide (NTZ) 10 μ M) with/without 6-BIO 0.5 μ M or DMSO (vehicle) for 24 hours. mature-DCs, treated with 100 ng/ml LPS for the last 23 hours except iDCs. 50,000 cells were incubated with FITC-dextran at 37°C. After 1 hour of incubation, cells were washed and analyzed immediately by flow cytometry. Each symbol represents a different donor and lines represent the median.

A**B**

Supplementary Figure 3. Representative gating strategy for flow cytometry analysis. A) For moDCs surface markers, unstained samples were used to set the gates. B) For Mixed Leukocyte Reaction (MLR), negative controls were used to set the gates. 1% false-positive events were accepted throughout the analysis.

Supplementary Table 1A. ELISA IL-12 p70 concentrations (values in pg/ml) for figure 2C.

	Donor RB21 (pg/ml)	Donor RB25 (pg/ml)	Donor WA03 (pg/ml)	Donor WA04 (pg/ml)	Donor WA05 (pg/ml)
DMSO	2395	468	1591	14991	19271
6-BIO 1 μ M	315	364	88	27.406	103
6-BIO 2 μ M	160	56	54.5	5.864	116

Supplementary Table 1B. ELISA IL-10 concentrations (values in pg/ml) for figure 2D.

	Donor RB21 (pg/ml)	Donor RB25 (pg/ml)	Donor WA03 (pg/ml)	Donor WA04 (pg/ml)	Donor WA05 (pg/ml)
DMSO	441	26	9246	3353	2744
6-BIO 1 μ M	1398	182	14889	3340	2524
6-BIO 2 μ M	917	148	11100	2100	2939

Supplementary Table 1C. ELISA IL-12 p70 concentrations (values in pg/ml) for figure 2E.

	Donor RB32 (pg/ml)	Donor RB33 (pg/ml)	Donor RB34 (pg/ml)	Donor WA03 (pg/ml)	Donor WA04 (pg/ml)	Donor WA05 (pg/ml)
DMSO	1528	23000	625	1375	14991	19271
ICG-001 0.5 μ M	2195			866	15027.7	15027
ICG-001 2 μ M	3760			1516	20578.87	39790
ICG-001 8 μ M	13722			6173	49906.9	45661
Axitinib 2.5 μ M	1487	46200	2725			
Axitinib 5 μ M	3637	46400	1908			
Axitinib 10 μ M	3741	24600	2430			
NTZ 5 μ M	963	15000	821			
NTZ 10 μ M	1141	12400	905			
NTZ 20 μ M	627	16000	641			

Supplementary Table 1D. ELISA IL-10 concentrations (values in pg/ml) for figure 2F.

	Donor RB32 (pg/ml)	Donor RB33 (pg/ml)	Donor RB34 (pg/ml)	Donor WA03 (pg/ml)	Donor WA04 (pg/ml)	Donor WA05 (pg/ml)
DMSO	1219	105	712	9246	3353	2782
ICG-001 0.5 μ M	516			8746	444	1461
ICG-001 2 μ M	85			4696	129	718
ICG-001 8 μ M	42			1322	74	96
Axitinib 2.5 μ M	677	239	1096			
Axitinib 5 μ M	1325	155	836			
Axitinib 10 μ M	1378	25	606			
NTZ 5 μ M	1076	102	625			
NTZ 10 μ M	323	75	751			
NTZ 20 μ M	139	100	686			

Supplementary Table 1E. ELISA IL-12 p70 concentrations (values in pg/ml) for figure 2G.

	Donor WA31 (pg/ml)	Donor WA32 (pg/ml)	Donor WA33 (pg/ml)	Donor WA34 (pg/ml)	Donor WA51 (pg/ml)	Donor WA53 (pg/ml)	Donor WA54 (pg/ml)	Donor WA55 (pg/ml)
DMSO	3566.35	402.15	2115.37	39225.6	86.493	298.75	316.6	105.45
6-BIO 0.5 μ M	463.45	5.32	324.495	1319.6	30.995	27.2	36.35	37.95
ICG-001 4 μ M	2492	1573.83	2226.135	30483	209.649	245.05	417.3	136.45
ICG-001 + 6-BIO	1058.25	91.82	1126.36	4566.6	47.884	43.45	56.6	50.1
Axitinib 10 μ M	5766.05	2926.61	2450.59	78156	269.45	244	937.85	753.2
Axitinib + 6-BIO	946.4	266.56	1961.06	11215.4	108.858	49.95	107.05	114.8
NTZ 10 μ M	3842.85	541.73	2283.105	21500.4	29.825	116.873	259.15	146.1
NTZ + 6-BIO	567.85	5.48	410.94	977.7	17.948	8.822	35.95	55.25
XAV-939 10 μ M	1360.35	187.45	2492.875	7125.7	19.431	19.418	61.65	58.05
XAV-939 + 6-BIO	577.3	2.5	358.1	745.3	27.293	6.487	56.9	59.3

Supplementary Table 1F. ELISA IL-10 concentrations (values in pg/ml) for figure 2H.

	Donor WA31 (pg/ml)	Donor WA32 (pg/ml)	Donor WA33 (pg/ml)	Donor WA34 (pg/ml)	Donor WA51 (pg/ml)	Donor WA53 (pg/ml)	Donor WA54 (pg/ml)	Donor WA55 (pg/ml)	Donor WA49 (pg/ml)
DMSO	290.6	362.65	2568.325	1711.7	5.739	379.3	340.45	167.95	367.85
6-BIO 0.5 μ M	1492.25	856.65	3762.15	2523.55	36.171	761.5	1019.8	400.85	366.25
ICG-001 4 μ M	59.65	35.367	402.15	77.302	4.045	30.081	48.65	23.6	142.35
ICG-001 + 6-BIO	277.8	171.65	1474.225	303.232	11.768	96.952	182.85	73.7	175.4
Axitinib 10 μ M	159.8	316.3	2946.7	3275.65	4.865	166.65	213.35	51.05	152.55
Axitinib + 6-BIO	685.2	1008.25	6628.7	3511.55	15.616	385.35	576.8	201.85	139.3
NTZ 10 μ M	249.35	599	2838.7	1358.2	4.858	202.5	315.75	125.55	434.15
NTZ + 6-BIO	509.55	1064.7	4798.475	2040.3	27.82	490.4	875.85	309.95	400.15
XAV-939 10 μ M	462.9	655.2	2525.8	795.2	19.47	428.7	637.8	167.05	393.8
XAV-939 + 6-BIO	899.9	1049.6	4380.125	2160.25	32.397	647.8	935.45	276.6	398.52

Supplementary Table 2. GO term enrichment analysis for differentially expressed genes of the comparison mDC + 6-BIO vs. mDC + DMSO (for up-regulated genes only). The table shows GO identifiers in combination with GO terms, as well as the number of annotated genes in the GO term gene set (Annot.).

<i>GO ID</i>	<i>GO Term</i>	<i>Annot.</i>	<i>S</i>	<i>Expect.</i>	<i>Fisher</i>
GO:0050896	response to stimulus	6449	210	154.9200	4.6000e-11
GO:0032501	multicellular organismal process	5014	172	120.4500	9.1800e-10
GO:0016477	cell migration	1144	60	27.4800	4.4420e-09
GO:0042221	response to chemical	3288	123	78.9900	1.6098e-08
GO:0048870	cell motility	1247	62	29.9600	1.7896e-08
GO:0051674	localization of cell	1247	62	29.9600	1.7896e-08
GO:0023052	signaling	4532	155	108.8700	2.7086e-08
GO:0040011	locomotion	1368	65	32.8600	4.2858e-08
GO:0007154	cell communication	4560	155	109.5500	4.3151e-08
GO:0006928	movement of cell or subcellular componen...	1577	71	37.8800	7.6166e-08
GO:0051271	negative regulation of cellular componen...	249	22	5.9800	1.4358e-07
GO:0051239	regulation of multicellular organismal p...	2371	94	56.9600	1.5107e-07
GO:0048513	animal organ development	2476	97	59.4800	1.5403e-07
GO:0040012	regulation of locomotion	767	43	18.4300	1.5964e-07
GO:0030855	epithelial cell differentiation	432	30	10.3800	1.7264e-07
GO:2000145	regulation of cell motility	742	42	17.8300	1.7445e-07
GO:0030336	negative regulation of cell migration	215	20	5.1600	2.3455e-07
GO:0007186	G protein-coupled receptor signaling pat...	538	34	12.9200	2.3713e-07
GO:0030334	regulation of cell migration	702	40	16.8600	2.9872e-07
GO:0001944	vasculature development	551	34	13.2400	4.1402e-07
GO:0072358	cardiovascular system development	551	34	13.2400	4.1402e-07

Supplementary Table 3. GO term enrichment analysis for differentially expressed genes of the comparison mDC + 6-BIO vs. mDC + DMSO (for down-regulated genes only). The table shows GO identifiers in combination with GO terms, as well as the number of annotated genes in the GO term gene set (Annot.).

<i>GO ID</i>	<i>GO Term</i>	<i>Annot.</i>	<i>S</i>	<i>Expect.</i>	<i>Fisher</i>
GO:0051716	cellular response to stimulus	5389	120	84.5800	3.3000e-07
GO:0070887	cellular response to chemical stimulus	2544	69	39.9300	1.0400e-06
GO:0048518	positive regulation of biological proces...	4785	108	75.1000	1.6200e-06
GO:1901700	response to oxygen-containing compound	1276	42	20.0300	2.7700e-06
GO:0051480	regulation of cytosolic calcium ion conc...	226	15	3.5500	2.8900e-06
GO:0071310	cellular response to organic substance	2100	59	32.9600	3.0300e-06
GO:0007154	cell communication	4560	103	71.5700	3.8800e-06
GO:0023052	signaling	4532	102	71.1300	5.5400e-06
GO:0007204	positive regulation of cytosolic calcium...	209	14	3.2800	5.6200e-06
GO:0035556	intracellular signal transduction	2258	61	35.4400	7.0000e-06
GO:1901701	cellular response to oxygen-containing c...	922	33	14.4700	7.1200e-06
GO:0048522	positive regulation of cellular process	4388	98	68.8700	1.5560e-05
GO:0010033	response to organic substance	2533	65	39.7600	1.7160e-05
GO:0050794	regulation of cellular process	8051	154	126.3600	1.9100e-05
GO:0042832	defense response to protozoan	22	5	0.3500	1.9660e-05
GO:0034097	response to cytokine	1017	34	15.9600	2.1510e-05
GO:0001562	response to protozoan	23	5	0.3600	2.4800e-05
GO:0071345	cellular response to cytokine stimulus	941	32	14.7700	2.7940e-05
GO:0050896	response to stimulus	6449	130	101.2200	2.8210e-05
GO:0042221	response to chemical	3288	78	51.6100	2.9130e-05

Supplementary Table 4. GO term enrichment analysis for differentially expressed genes of the comparison mDC + ICG-001 vs. mDC + DMSO (for up-regulated genes only). The table shows GO identifiers in combination with GO terms, as well as the number of annotated genes in the GO term gene set (Annot.).

<i>GO ID</i>	<i>GO Term</i>	<i>Annot.</i>	<i>S</i>	<i>Expect.</i>	<i>Fisher</i>
GO:1901607	alpha-amino acid biosynthetic process	56	5	0.1400	2.8000e-07
GO:0008652	cellular amino acid biosynthetic process	68	5	0.1700	7.4000e-07
GO:0006563	L-serine metabolic process	11	3	0.0300	2.4900e-06
GO:0009070	serine family amino acid biosynthetic pr...	15	3	0.0400	6.8100e-06
GO:0017144	drug metabolic process	446	8	1.1400	1.2280e-05
GO:0071549	cellular response to dexamethasone stimu...	24	3	0.0600	2.9820e-05
GO:1901605	alpha-amino acid metabolic process	152	5	0.3900	3.8630e-05
GO:0097327	response to antineoplastic agent	80	4	0.2000	4.8990e-05
GO:0046394	carboxylic acid biosynthetic process	270	6	0.6900	5.4570e-05
GO:0016053	organic acid biosynthetic process	271	6	0.6900	5.5700e-05
GO:0009069	serine family amino acid metabolic proce...	30	3	0.0800	5.9200e-05
GO:0071548	response to dexamethasone	31	3	0.0800	6.5430e-05
GO:0044283	small molecule biosynthetic process	569	8	1.4600	7.0430e-05
GO:0009066	aspartate family amino acid metabolic pr...	38	3	0.1000	1.2000e-04
GO:0071385	cellular response to glucocorticoid stim...	42	3	0.1100	1.6000e-04
GO:0071384	cellular response to corticosteroid stim...	44	3	0.1100	1.9000e-04
GO:0071466	cellular response to xenobiotic stimulus	117	4	0.3000	2.1000e-04
GO:0044282	small molecule catabolic process	366	6	0.9400	2.9000e-04
GO:0009064	glutamine family amino acid metabolic pr...	53	3	0.1400	3.3000e-04
GO:0042446	hormone biosynthetic process	54	3	0.1400	3.5000e-04

Supplementary Table 5. GO term enrichment analysis for differentially expressed genes of the comparison mDC + ICG-001 vs. mDC + DMSO (for down-regulated genes only). The table shows GO identifiers in combination with GO terms, as well as the number of annotated genes in the GO term gene set (Annot.).

<i>GO ID</i>	<i>GO Term</i>	<i>Annot.</i>	<i>S</i>	<i>Expect.</i>	<i>Fisher</i>
GO:0019730	antimicrobial humoral response	55	8	0.1400	6.1000e-13
GO:0006952	defense response	1265	19	3.1400	4.8300e-12
GO:0006954	inflammatory response	601	14	1.4900	3.8240e-11
GO:0030593	neutrophil chemotaxis	91	8	0.2300	3.9970e-11
GO:0061844	antimicrobial humoral immune response me...	29	6	0.0700	6.3900e-11
GO:0071621	granulocyte chemotaxis	105	8	0.2600	1.2813e-10
GO:1990266	neutrophil migration	105	8	0.2600	1.2813e-10
GO:0032101	regulation of response to external stimu...	819	15	2.0300	1.7575e-10
GO:0009605	response to external stimulus	2094	21	5.2000	3.7610e-10
GO:0097530	granulocyte migration	122	8	0.3000	4.3026e-10
GO:0006955	immune response	1644	19	4.0800	4.9131e-10
GO:0006959	humoral immune response	147	8	0.3600	1.9102e-09
GO:0006950	response to stress	3236	24	8.0300	2.8453e-09
GO:0002376	immune system process	2414	21	5.9900	5.6275e-09
GO:0097529	myeloid leukocyte migration	182	8	0.4500	1.0337e-08
GO:0051707	response to other organism	1123	15	2.7900	1.4005e-08
GO:0043207	response to external biotic stimulus	1124	15	2.7900	1.4176e-08
GO:0030595	leukocyte chemotaxis	193	8	0.4800	1.6380e-08
GO:0009607	response to biotic stimulus	1151	15	2.8600	1.9581e-08
GO:0098542	defense response to other organism	853	13	2.1200	4.1847e-08

Supplementary Table 6. Genes effected by ICG-001 treatment and their representation in the dataset. Genes were manually selected based on the references shown. Statistical values for the comparison of LPS-matured DC + ICG-001 vs. LPS-matured DC + DMSO are shown.

<i>HGNC symbol</i>	<i>Ensembl ID</i>	<i>log2FC</i>	<i>p-value</i>	<i>adj. p-value</i>	<i>Reference</i>
BIRC5	ENSG00000089685	-0.7157	0.7074	1	Emami et al. 2004; Chan et al. 2015
CCND1	ENSG00000110092	0.8013	0.5697	1	Emami et al. 2004
CD44	ENSG00000026508	-0.1965	1.0000	1	Chan et al. 2015
CDH1	ENSG00000039068	0.1363	1.0000	1	Chan et al. 2015
EZH2	ENSG00000106462	-0.1493	1.0000	1	Chan et al. 2015
FOXM1	ENSG00000111206	-0.3174	1.0000	1	Chan et al. 2015
S100A4	ENSG00000196154	-1.1493	0.0372	1	Emami et al. 2004
VIM	ENSG00000026025	-0.4712	1.0000	1	Chan et al. 2015