

Supplementary Material

Crosstalk between PPAR γ Ligands and Inflammatory-Related Pathways in Natural T-Regulatory Cells from Type 1 Diabetes Mouse Model

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Table 1. Differentially expressed target genes of pathways related to immune cells in ciglitazone-treated nTreg cells from NOD mice.

No	Symbol	Description	GenBank Accession no	Unigene	Fold change ¹
MAP KINASE					
1	egr1	Early growth response 1	NM007913	Mm.181959	< 0.2
2	fos	FBJ osteosarcoma oncogene	NM010234	Mm.246513	< 0.2
3	jun	Jun oncogene	NM010591	Mm.275071	< 0.2
4	nab2	Ngfi-A binding protein 2	NM008668	Mm.336898	< 0.2
TGF-β					
5	cdkn1a	Cyclin dependent inhibitor 1A	NM007669	Mm.195663	< 0.2
6	cdkn1b	Cyclin dependent inhibitor 1B	NM009875	Mm.2958	< 0.2
7	cdkn2a	Cyclin dependent inhibitor 2A	NM0099877	Mm.4733	< 0.2
8	cdkn2b	Cyclin dependent inhibitor 2B, p15, inhibits CDK4	NM007670	Mm.423094	< 0.2
NF-κβ					
9	Ccl20	Chemokine (C-C) motif ligand 20	NM016960	Mm.116739	< 0.2
10	Cxcl1	Chemokine (C-X-C motif) ligand 1	NM008179	Mm.21013	< 0.2
11	Icam1	Intracellular adhesion molecule 1	NM010493	Mm.435508	< 0.2
12	Ikbkb	Inhibitor of kappa B kinase beta	Nm010546	Mm.277886	< 0.2
13	Il1a	Interleukin 1 alpha	NM010554	Mm.15534	< 0.2
14	Il2	Interleukin 2	Nm008366	Mm.14190	< 0.2
15	Il2ra	Interleukin 2 receptor alpha chain	NM008367	Mm.915	0.3686
16	Lta	Lymphotoxin A	NM010735	Mm.87787	< 0.2
17	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	NM010907	Mm.170515	1.0718
18	Nos2	Nitric oxide synthase 2, inducible	NM010927	Mm.2893	< 0.2
19	Tank	TRAF-family-associated NF-k B activator	NM011529	Mm.244393	3.5540
20	Tnf	Tumor necrosis factor	NM013693	Mm.1293	0.3585
21	Vcam1	Vascular endothelial molecule 1	NM011693	Mm.76649	< 0.2
NFAT					
22	Cd5	CD5 antigen	NM007650	Mm.779	< 0.2
23	Fasl	Fas (TNF-receptor superfamily member 6) ligand	NM010177	Mm.3355	< 0.2
24	Il2	Interleukin 2	Nm008366	Mm.14190	< 0.2
PKC					
25	Csf2	Colony stimulating factor 2	NM009969	Mm.4922	< 0.2
26	myc	Myelocytomatosis oncogen	NM010849	Mm.2444	> 10.0
27	odc1	Ornithine decarboxylase, structural 1	NM013614	Mm.34102	> 5.0

¹ Fold change differences as compared to untreated control group. Fold change < 0.2 fold indicates downregulation and > 5 fold indicates upregulation. Genes with * are not differentially regulated as compared to control group.

Table 2. Differentially expressed target genes of pathways related to immune cells in prostaglandin J₂-treated nTreg cells from NOD mice.

No	Symbol	Description	GenBank Accession no	Unigene	Fold change ¹
MAP KINASE					
1	egr1	Early growth response 1	NM007913	Mm.181959	< 0.2
2	fos	FBJ osteosarcoma oncogene	NM010234	Mm.246513	< 0.2
3	jun	Jun oncogene	NM010591	Mm.275071	< 0.2
4	nab2	Ngfi-A binding protein 2	NM008668	Mm.336898	< 0.2
TGF-β					
5	cdkn1a	Cyclin dependent inhibitor 1A	NM007669	Mm.195663	< 0.2
6	cdkn1b	Cyclin dependent inhibitor 1B	NM009875	Mm.2958	0.60
7	cdkn2a	Cyclin dependent inhibitor 2A	NM0099877	Mm.4733	< 0.2
8	cdkn2b	Cyclin dependent inhibitor 2B, p15, inhibits CDK4	NM007670	Mm.423094	0.37
NF-κβ					
9	Ccl20	Chemokine (C-C) motif ligand 20	NM016960	Mm.116739	< 0.2
10	Cxcl1	Chemokine (C-X-C motif) ligand 1	NM008179	Mm.21013	< 0.2
11	Icam1	Intracellular adhesion molecule 1	NM010493	Mm.435508	< 0.2
12	Ikbkb	Inhibitor of kappa B kinase beta	Nm010546	Mm.277886	< 0.2
13	Il1a	Interleukin 1 alpha	NM010554	Mm.15534	< 0.2
14	Il2	Interleukin 2	Nm008366	Mm.14190	< 0.2
15	Il2ra	Interleukin 2 receptor alpha chain	NM008367	Mm.915	< 0.2
16	Lta	Lymphotoxin A	NM010735	Mm.87787	0.5620
17	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	NM010907	Mm.170515	< 0.2
18	Nos2	Nitric oxide synthase 2, inducible	NM010927	Mm.2893	< 0.2
19	Tank	TRAF-family-associated NF-k B activator	NM011529	Mm.244393	< 0.2
20	Tnf	Tumor necrosis factor	NM013693	Mm.1293	1.2968
21	Vcam1	Vascular endothelial molecule 1	NM011693	Mm.76649	< 0.2
NFAT					
22	Cd5	CD5 antigen	NM007650	Mm.779	< 0.2
23	Fasl	Fas (TNF-receptor superfamily member 6) ligand	NM010177	Mm.3355	< 0.2
24	Il2	Interleukin 2	Nm008366	Mm.14190	< 0.2
PKC					
25	Csf2	Colony stimulating factor 2	NM009969	Mm.4922	*
26	myc	Myelocytomatosis oncogen	NM010849	Mm.2444	*
27	odc1	Ornithine decarboxylase, structural 1	NM013614	Mm.34102	> 5.0

¹ Fold change differences as compared to untreated control group. Fold change < 0.2 fold indicates downregulation and > 5 fold indicates upregulation. Genes with * are not differentially regulated as compared to control group.

Table 3. Differentially expressed target genes of pathways related to immune cells in ciglitazone-treated nTreg cells from NOR mice.

No	Symbol	Description	GenBank Accession no	Unigene	Fold change ¹
MAP KINASE					
1	egr1	Early growth response 1	NM007913	Mm.181959	3.650
2	fos	FBJ osteosarcoma oncogene	NM010234	Mm.246513	< 0.2
3	jun	Jun oncogene	NM010591	Mm.275071	< 0.2
4	nab2	Ngfi-A binding protein 2	NM008668	Mm.336898	< 0.2
TGF-β					
5	cdkn1a	Cyclin dependent inhibitor 1A	NM007669	Mm.195663	> 5.0
6	cdkn1b	Cyclin dependent inhibitor 1B	NM009875	Mm.2958	1.204
7	cdkn2a	Cyclin dependent inhibitor 2A	NM0099877	Mm.4733	< 0.2
8	cdkn2b	Cyclin dependent inhibitor 2B, p15, inhibits CDK4	NM007670	Mm.423094	< 0.2
NF-κB					
9	Ccl20	Chemokine (C-C) motif ligand 20	NM016960	Mm.116739	> 5.0
10	Cxcl1	Chemokine (C-X-C motif) ligand 1	NM008179	Mm.21013	< 0.2
11	Icam1	Intracellular adhesion molecule 1	NM010493	Mm.435508	*
12	Ikbkb	Inhibitor of kappa B kinase beta	Nm010546	Mm.277886	*
13	Il1a	Interleukin 1 alpha	NM010554	Mm.15534	*
14	Il2	Interleukin 2	Nm008366	Mm.14190	*
15	Il2ra	Interleukin 2 receptor alpha chain	NM008367	Mm.915	> 5.0
16	Lta	Lymphotoxin A	NM010735	Mm.87787	> 5.0
17	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	NM010907	Mm.170515	> 5.0
18	Nos2	Nitric oxide synthase 2, inducible	NM010927	Mm.2893	> 5.0
19	Tank	TRAF-family-associated NF-k B activator	NM011529	Mm.244393	> 5.0
20	Tnf	Tumor necrosis factor	NM013693	Mm.1293	*
21	Vcam1	Vascular endothelial molecule 1	NM011693	Mm.76649	*
NFAT					
22	Cd5	CD5 antigen	NM007650	Mm.779	> 5.0
23	Fasl	Fas (TNF-receptor superfamily member 6) ligand	NM010177	Mm.3355	*
24	Il2	Interleukin 2	Nm008366	Mm.14190	*
PKC					
25	Csf2	Colony stimulating factor 2	NM009969	Mm.4922	*
26	myc	Myelocytomatosis oncogen	NM010849	Mm.2444	> 5.0
27	odc1	Ornithine decarboxylase, structural 1	NM013614	Mm.34102	> 5.0

¹ Fold change differences as compared to untreated control group. Fold change < 0.2 fold indicates downregulation and > 5 fold indicates upregulation. Genes with * are not differentially regulated as compared to control group.

Table 4. Differentially expressed target genes of pathways related to immune cells in prostaglandin J₂-treated nTreg cells from NOR mice.

No	Symbol	Description	GenBank Accession no	Unigene	Fold change ¹
MAP KINASE					
1	egr1	Early growth response 1	NM007913	Mm.181959	1.501
2	fos	FBJ osteosarcoma oncogene	NM010234	Mm.246513	*
3	jun	Jun oncogene	NM010591	Mm.275071	2.020
4	nab2	Ngfi-A binding protein 2	NM008668	Mm.336898	< 0.2
TGF-β					
5	cdkn1a	Cyclin dependent inhibitor 1A	NM007669	Mm.195663	*
6	cdkn1b	Cyclin dependent inhibitor 1B	NM009875	Mm.2958	*
7	cdkn2a	Cyclin dependent inhibitor 2A	NM0099877	Mm.4733	*
8	cdkn2b	Cyclin dependent inhibitor 2B, p15, inhibits CDK4	NM007670	Mm.423094	*
NF-κβ					
9	Ccl20	Chemokine (C-C) motif ligand 20	NM016960	Mm.116739	0.4983
10	Cxcl1	Chemokine (C-X-C motif) ligand 1	NM008179	Mm.21013	0.1632
11	Icam1	Intracellular adhesion molecule 1	NM010493	Mm.435508	0.6713
12	Ikbkb	Inhibitor of kappa B kinase beta	Nm010546	Mm.277886	0.1632
13	Il1a	Interleukin 1 alpha	NM010554	Mm.15534	1.0317
14	Il2	Interleukin 2	Nm008366	Mm.14190	0.4846
15	Il2ra	Interleukin 2 receptor alpha chain	NM008367	Mm.915	0.695
16	Lta	Lymphotoxin A	NM010735	Mm.87787	0.3856
17	Nfkbia	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	NM010907	Mm.170515	2.6117
18	Nos2	Nitric oxide synthase 2, inducible	NM010927	Mm.2893	1.0755
19	Tank	TRAF-family-associated NF-κB activator	NM011529	Mm.244393	2.5758
20	Tnf	Tumor necrosis factor	NM013693	Mm.1293	1.0317
21	Vcam1	Vascular endothelial molecule 1	NM011693	Mm.76649	0.4132
NFAT					
22	Cd5	CD5 antigen	NM007650	Mm.779	2.2894
23	Fasl	Fas (TNF-receptor superfamily member 6) ligand	NM010177	Mm.3355	< 0.2
24	Il2	Interleukin 2	Nm008366	Mm.14190	< 0.2
PKC					
25	Csf2	Colony stimulating factor 2	NM009969	Mm.4922	*
26	myc	Myelocytomatosis oncogen	NM010849	Mm.2444	*
27	odc1	Ornithine decarboxylase, structural 1	NM013614	Mm.34102	> 5.0

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