## Supplemental Information

**Table S1:** Differentially regulated pathways in cortical versus cerebellar humanastrocytes following treatment with PBS or IFN- $\beta$ 

Pathway	p value
Regulation of eIF4 and p70S6K signaling	3.64E-07
EIF2 signaling	4.10E-07
Chondroitin and dermatan biosynthesis	7.23E-05
Interferon signaling	1.12E-04
Mevalonate pathway	1.95E-04
Tight junction signaling	2.18E-04
Geranylgeranyldiphosphate biosnthesis	4.51E-04
Epithelial adherens junction signaling	5.38E-04
IRF activation by cytosolic PRRs	9.20E-04
EIF2 signaling	1.01E-03
Aryl hydrocarbon receptor signaling	1.43E-03
HMGB1 signaling	1.50E-03
Retinoic acid-mediated apoptosis	1.50E-03
AMPK signaling	1.70E-03
Cardiovascular hypoxia	1.80E-03
Cholesterol biosynethesis	2.02E-03
mTOR signaling	2.28E-03
Actin cytoskeleton signaling	2.30E-03
Retinoate biosynthesis	2.60E-03
Vitamin-C transport	3.42E-03
Granulocyte adhesion and diapedesis	4.20E-03
Neuronal nNOS signaling	4.29E-03
Death receptor signaling	4.81E-03
Chondroitin sulfate biosynthesis	5.34E-03
Nicotine degradation	6.45E-03
Calpain protease regulation	7.35E-03

**Table S2**: Selected genes differentially expressed between regions in PBS treated astrocyte cultures

## Genes upregulated in CBL astrocytes vs. CTX astrocytes following PBS treatment

Genes downregulated in CBL astrocytes vs. CTX astrocytes following PBS treatment

		Fold change
Rank	Gene symbol	(CBL vs. CTX)
1	TGM2	5.519
2	HAPLN1	5.363
3	CFH	5.295
4	PADI2	5.272
5	CORIN	4.936
6	SLC38A2	4.745
7	ATXN1	4.591
8	EDIL3	4.407
9	TREX1	4.297
10	FGF14	4.114
11	SEMA3C	3.965
12	SDC4	3.883
13	C10orf41	3.878
14	TSIX	3.846
15	WNT5A	3.792
16	OPA3	3.766
17	HPS3	3.731
18	KRT18	3.668
19	TNRC6C	3.505
20	C1orf170	3.422
21	NR2F2	3.409
22	C7orf49	3.365
23	CYP1B1	3.265
24	COL12A1	3.248
25	C1orf204	3.242
26	ALDH1A3	3.214
27	UNC84B	3.149
28	LMO7	3.079
29	ITGBL1	3.068
30	VAMP1	2.999
31	IFIT3	2.969
32	CSNK1D	2.933
33	CLDN11	2.888
34	FLJ30064	2.805
35	EMILIN1	2.803
36	MTERFD2	2.789
37	SMG6	2.772
38	RBM9	2.758

		Fold change
Rank	Gene symbol	(CBL vs. CTX)
1	HEPN1	-7.493
2	BSCL2	-6.881
3	IDH3A	-5.951
4	PTPRZ1	-5.921
5	NCAN	-5.857
6	НОРХ	-5.846
7	FABP7	-5.831
8	KIF5C	-5.597
9	GLB1L2	-5.084
10	CELSR2	-5.063
11	GAP43	-4.953
12	TCFL5	-4.806
13	CXCR6	-4.321
14	HLA-DQA1	-4.222
15	PVRIG	-4.184
16	DENND1A	-4.163
17	NUBP1	-4.121
18	FAM13C	-3.777
19	TNKS	-3.662
20	SYT11	-3.502
21	FILIP1	-3.355
22	PMP22	-3.255
23	CA14	-3.247
24	YIF1A	-3.148
25	TUBB2B	-3.146
26	SOX2	-3.082
27	FZD8	-3.047
28	MTG1	-2.935
29	IVNS1ABP	-2.913
30	PDE6B	-2.912
31	PEG3AS	-2.877
32	HMGCS1	-2.851
33	C17orf45	-2.811
34	CADM1	-2.769
35	HMGCR	-2.756
36	SLC15A1	-2.724
37	C8orf59	-2.687
38	CD27	-2.611

39	HDAC9	2.672	39	JAG1	-2.506
40	DNAJB4	2.615	40	IQCK	-2.476
41	PLOD2	2.558	41	NES	-2.447
42	MGST1	2.525	42	SLC15A3	-2.427
43	GDF5OS	2.505	43	ANKRD42	-2.408
44	ZFHX4	2.49	44	СТЅВ	-2.365
45	SP100	2.471	45	JMJD4	-2.36
46	MEST	2.418	46	SLC25A26	-2.321
47	PLEKHG6	2.387	47	FOXG1	-2.247
48	PDE4DIP	2.343	48	STK11	-2.186
49	TOR1A	2.332	49	RPL23AP64	-2.172
50	COL6A2	2.321	50	GEMIN7	-2.166
51	PIP4K2B	2.295	51	TUBB1	-2.166
52	RPL13A	2.288	52	ZWILCH	-2.159
53	PARP14	2.27	53	RAB41	-2.085
54	CSGALNACT1	2.255	54	THBS3	-2.048
55	SBF2	2.23	55	PDE8B	-2.042
56	NT5C1B	2.199	56	NNT	-2.035
57	PAFAH1B1	2.195	57	РАРРА	-2.032
58	FSTL3	2.177	58	ABR	-2.021
59	P4HA1	2.17	59	IER3	-2.017
60	DUSP6	2.159	60	CTGF	-2.003
61	TRAM1	2.152	61	SIRT5	-2.003
62	ANKRD40	2.117	62	NCAM1	-1.962
63	EFEMP1	2.102	63	KIAA0182	-1.958
64	FAM3C	2.099	64	HADHA	-1.903
65	IL1R1	2.094	65	TIAM2	-1.897
66	MX1	2.039	66	FLNC	-1.89
67	TGFBR1	2.035	67	CBL	-1.873
68	USO1	2.026	68	SYNM	-1.867
69	IRS1	2.024	69	TOP2A	-1.818
70	GBP1	1.965	70	CDH2	-1.808
71	ALCAM	1.93	71	ARSB	-1.803
72	PLXNA4	1.918	72	CCNI2	-1.796
73	APOL2	1.895	73	TMEM91	-1.787
74	ADAM12	1.887	74	RRS1	-1.76
75	LAMA2	1.874	75	PAX6	-1.759
76	DDX58	1.847	76	SMARCA4	-1.732
77	SYNPO	1.832	77	C15orf37	-1.73
78	FNDC8	1.802	78	NUDT13	-1.729
79	PGK1	1.797	79	VPS13B	-1.702
80	EPHX1	1.796	80	OGFOD1	-1.696
81	BCAT1	1.787	81	LMOD1	-1.672

29 J	AG1	-2.506
40 I	QCK	-2.476
41 N	NES	-2.447
42 5	SLC15A3	-2.427
43 A	ANKRD42	-2.408
44 (	CTSB	-2.365
45 J	MJD4	-2.36
46 5	SLC25A26	-2.321
47 F	OXG1	-2.247
48 5	STK11	-2.186
49 F	RPL23AP64	-2.172
50 C	GEMIN7	-2.166
51 7	UBB1	-2.166
52 Z	WILCH	-2.159
53 F	RAB41	-2.085
54 1	THBS3	-2.048
55 F	DE8B	-2.042
56 N	NNT	-2.035
57 F	PAPPA	-2.032
58 A	ABR	-2.021
59 I	ER3	-2.017
60 0	CTGF	-2.003
61 5	SIRT5	-2.003
62 1	NCAM1	-1.962
63 k	(IAA0182	-1.958
64 H	IADHA	-1.903
65 1	TIAM2	-1.897
66 F	LNC	-1.89
67 (	CBL	-1.873
68 5	SYNM	-1.867
69 1	OP2A	-1.818
70 0	CDH2	-1.808
71 A	ARSB	-1.803
72 (	CCNI2	-1.796
73 1	MEM91	-1.787
74 F	RRS1	-1.76
75 F	PAX6	-1.759
76 9	SMARCA4	-1.732
77 (	C15orf37	-1.73
78	NUDT13	-1.729
79 \	/PS13B	-1.702
80 0	DGFOD1	-1.696
81 L	.MOD1	-1.672
82 E	DDB2	-1.671

83	MYL12A	1.695
84	SEC23A	1.682
85	DTX3L	1.524
86	LRP1	1.523
87	PPIB	1.523
88	DCBLD2	1.476
89	FANCL	1.46
90	TJP1	1.429
91	UBAC2	1.4
92	HEATR1	1.397
93	IFI16	1.385
94	CAPN2	1.35
95	РРРЗСА	1.336
96	EIF3B	1.276
97	IFIH1	1.258
98	IFI44L	1.083
99	IFIT1	0.721
100	STAT1	0.572

83	PUS10	-1.65
84	PEX1	-1.644
85	PEG10	-1.639
86	IDI1	-1.624
87	MRPS7	-1.618
88	TRAPPC2	-1.604
89	MARCKSL1	-1.604
90	PTGR2	-1.601
91	DOM3Z	-1.591
92	CLU	-1.587
93	FAM169A	-1.581
94	UBE2H	-1.572
95	LIMK2	-1.569
96	HMGB2	-1.553
97	LPIN3	-1.528
98	DDR1	-1.511
99	ASAP2	-1.487
100	PCCA	-1.482

Table S3: Selected genes differentially expressed between regions in IFN- $\beta$  treated astrocyte cultures

## Genes upregulated in CBL astrocytes vs. CTX astrocytes following IFN-β treatment

Genes downregulated in CBL astrocytes vs. CTX astrocytes following IFN-β treatment

Rank         Gene symbol         (CBL vs. CTX)           1         CFH         6.894           2         PADI2         6.051           3         HPS3         5.11           4         IL1R1         4.721           5         HAPLN1         4.599           6         CLDN11         4.578           7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         C1orf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309 </th <th></th> <th></th> <th>Fold change</th>			Fold change
1         CFH         6.894           2         PADI2         6.051           3         HPS3         5.11           4         IL1R1         4.721           5         HAPLN1         4.599           6         CLDN11         4.578           7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         C1orf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231	Rank	Gene symbol	(CBL vs. CTX)
2         PADI2         6.051           3         HPS3         5.11           4         IL1R1         4.721           5         HAPLN1         4.599           6         CLDN11         4.578           7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         C1orf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224 <td>1</td> <td>CFH</td> <td>6.894</td>	1	CFH	6.894
3         HPS3         5.11           4         IL1R1         4.721           5         HAPLN1         4.599           6         CLDN11         4.578           7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         Clorf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           37         SLC38A2         3.136	2	PADI2	6.051
4         IL1R1         4.721           5         HAPLN1         4.599           6         CLDN11         4.578           7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         Clorf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.135	3	HPS3	5.11
5         HAPLN1         4.599           6         CLDN11         4.578           7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         C1orf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135 <td>4</td> <td>IL1R1</td> <td>4.721</td>	4	IL1R1	4.721
6         CLDN11         4.578           7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         Clorf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012 <td>5</td> <td>HAPLN1</td> <td>4.599</td>	5	HAPLN1	4.599
7         CSGALNACT1         4.311           8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         Clorf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.895	6	CLDN11	4.578
8         ITGBL1         4.272           9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         C1orf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999	7	CSGALNACT1	4.311
9         TSIX         4.172           10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         C1orf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.895           33         KRT18         2.886	8	ITGBL1	4.272
10         CORIN         4.139           11         GBP1         4.111           12         FGF14         3.844           13         ALCAM         3.833           14         C1orf170         3.821           15         CDH11         3.784           16         FAM151A         3.746           17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.885           33         KRT18         2.886	9	TSIX	4.172
11       GBP1       4.111         12       FGF14       3.844         13       ALCAM       3.833         14       C1orf170       3.821         15       CDH11       3.784         16       FAM151A       3.746         17       CSNK1D       3.651         18       GLIS2       3.623         19       TREX1       3.596         20       VAMP1       3.503         21       FEM1B       3.478         22       EDIL3       3.333         23       FLJ30064       3.309         24       PDE4DIP       3.231         25       UACA       3.224         26       IGFBP4       3.179         27       SLC38A2       3.136         28       CCDC152       3.135         29       TGM2       3.128         30       CYP1B1       3.012         31       NRP1       2.999         32       CSRP1       2.895         33       KRT18       2.886         34       DNAJB4       2.857         35       CCDC80       2.823         36       OPA3 <td>10</td> <td>CORIN</td> <td>4.139</td>	10	CORIN	4.139
12       FGF14       3.844         13       ALCAM       3.833         14       C1orf170       3.821         15       CDH11       3.784         16       FAM151A       3.746         17       CSNK1D       3.651         18       GLIS2       3.623         19       TREX1       3.596         20       VAMP1       3.503         21       FEM1B       3.478         22       EDIL3       3.333         23       FLJ30064       3.309         24       PDE4DIP       3.231         25       UACA       3.224         26       IGFBP4       3.179         27       SLC38A2       3.136         28       CCDC152       3.135         29       TGM2       3.128         30       CYP1B1       3.012         31       NRP1       2.999         32       CSRP1       2.886         34       DNAJB4       2.857         35       CCDC80       2.823         36       OPA3       2.795         37       LAMA2       2.79         38       ERRFI1 </td <td>11</td> <td>GBP1</td> <td>4.111</td>	11	GBP1	4.111
13       ALCAM       3.833         14       C1orf170       3.821         15       CDH11       3.784         16       FAM151A       3.746         17       CSNK1D       3.651         18       GLIS2       3.623         19       TREX1       3.596         20       VAMP1       3.503         21       FEM1B       3.478         22       EDIL3       3.333         23       FLJ30064       3.309         24       PDE4DIP       3.231         25       UACA       3.224         26       IGFBP4       3.179         27       SLC38A2       3.136         28       CCDC152       3.135         29       TGM2       3.128         30       CYP1B1       3.012         31       NRP1       2.999         32       CSRP1       2.886         34       DNAJB4       2.857         35       CCDC80       2.823         36       OPA3       2.795         37       LAMA2       2.79         38       ERRFI1       2.777	12	FGF14	3.844
14       C1orf170       3.821         15       CDH11       3.784         16       FAM151A       3.746         17       CSNK1D       3.651         18       GLIS2       3.623         19       TREX1       3.596         20       VAMP1       3.503         21       FEM1B       3.478         22       EDIL3       3.333         23       FLJ30064       3.09         24       PDE4DIP       3.231         25       UACA       3.224         26       IGFBP4       3.179         27       SLC38A2       3.136         28       CCDC152       3.135         29       TGM2       3.128         30       CYP1B1       3.012         31       NRP1       2.999         32       CSRP1       2.895         33       KRT18       2.886         34       DNAJB4       2.857         35       CCDC80       2.823         36       OPA3       2.795         37       LAMA2       2.79         38       ERRFI1       2.777 <td>13</td> <td>ALCAM</td> <td>3.833</td>	13	ALCAM	3.833
15CDH113.78416FAM151A3.74617CSNK1D3.65118GLIS23.62319TREX13.59620VAMP13.50321FEM1B3.47822EDIL33.33323FLJ300643.30924PDE4DIP3.23125UACA3.22426IGFBP43.17927SLC38A23.13628CCDC1523.13529TGM23.12830CYP1B13.01231NRP12.99932CSRP12.89533KRT182.88634DNAJB42.85735CCDC802.82336OPA32.79537LAMA22.7938ERRFI12.777	14	C1orf170	3.821
16       FAM151A       3.746         17       CSNK1D       3.651         18       GLIS2       3.623         19       TREX1       3.596         20       VAMP1       3.503         21       FEM1B       3.478         22       EDIL3       3.333         23       FLJ30064       3.309         24       PDE4DIP       3.231         25       UACA       3.224         26       IGFBP4       3.179         27       SLC38A2       3.136         28       CCDC152       3.135         29       TGM2       3.128         30       CYP1B1       3.012         31       NRP1       2.999         32       CSRP1       2.895         33       KRT18       2.886         34       DNAJB4       2.857         35       CCDC80       2.823         36       OPA3       2.795         37       LAMA2       2.797         38       ERRFI1       2.777	15	CDH11	3.784
17         CSNK1D         3.651           18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	16	FAM151A	3.746
18         GLIS2         3.623           19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.885           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	17	CSNK1D	3.651
19         TREX1         3.596           20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797           38         ERRFI1         2.777	18	GLIS2	3.623
20         VAMP1         3.503           21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	19	TREX1	3.596
21         FEM1B         3.478           22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797           38         ERRFI1         2.777	20	VAMP1	3.503
22         EDIL3         3.333           23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	21	FEM1B	3.478
23         FLJ30064         3.309           24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.885           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	22	EDIL3	3.333
24         PDE4DIP         3.231           25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797           38         ERRFI1         2.777	23	FLJ30064	3.309
25         UACA         3.224           26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	24	PDE4DIP	3.231
26         IGFBP4         3.179           27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	25	UACA	3.224
27         SLC38A2         3.136           28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	26	IGFBP4	3.179
28         CCDC152         3.135           29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	27	SLC38A2	3.136
29         TGM2         3.128           30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797	28	CCDC152	3.135
30         CYP1B1         3.012           31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797	29	TGM2	3.128
31         NRP1         2.999           32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797	30	CYP1B1	3.012
32         CSRP1         2.895           33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797           38         ERRFI1         2.777	31	NRP1	2.999
33         KRT18         2.886           34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.797           38         ERRFI1         2.777	32	CSRP1	2.895
34         DNAJB4         2.857           35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	33	KRT18	2.886
35         CCDC80         2.823           36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	34	DNAJB4	2.857
36         OPA3         2.795           37         LAMA2         2.79           38         ERRFI1         2.777	35	CCDC80	2.823
37         LAMA2         2.79           38         ERRFI1         2.777	36	OPA3	2.795
38 ERRFI1 2.777	37	LAMA2	2.79
	38	ERRFI1	2.777

		Fold change
Rank	Gene symbol	(CBL vs. CTX)
100	HEPN1	-8.102
99	NCAN	-7.955
98	PTPRZ1	-6.808
97	MKRN3	-6.633
96	FABP7	-6.077
95	НОРХ	-5.935
94	CXCR6	-5.575
93	BSCL2	-4.817
92	PDE6B	-4.68
91	NUBP1	-4.629
90	GAP43	-4.607
89	ARSB	-4.576
88	SYT11	-4.544
87	JAG1	-4.437
86	TNKS	-4.434
85	KIAA0746	-4.388
84	KIF5C	-4.228
83	SLC1A3	-4.225
82	FAM13C	-4.207
81	IDH3A	-3.792
80	TUBB2B	-3.735
79	SMAP1	-3.648
78	FZD8	-3.629
77	PHYHIPL	-3.504
76	CADM1	-3.231
75	PMP22	-3.155
74	ISLR	-3.129
73	SMC5	-3.106
72	NAV2	-3.063
71	DENND1A	-3.042
70	PVRIG	-3.022
69	GLB1L2	-2.972
68	CELSR2	-2.921
66	THBS3	-2.765
67	BAZ2B	-2.765
65	SYNM	-2.752
64	YIF1A	-2.748
63	CASP6	-2.709

39	COL12A1	2.757	62	PEG3AS	-2.708
40	ADAMTS1	2.717	61	PEG10	-2.638
41	COL8A1	2.7	60	HMGCS1	-2.627
42	NR2F2	2.695	59	TCFL5	-2.59
43	PLS3	2.694	58	SLC15A3	-2.535
44	C1orf138	2.694	57	NMT1	-2.497
45	TMEM39A	2.663	56	C17orf45	-2.485
46	NT5C1B	2.658	55	CTTNBP2NL	-2.469
47	НОХВЗ	2.637	54	IPO4	-2.468
48	FKBP5	2.55	53	RAB41	-2.442
49	MTERFD2	2.539	52	MTG1	-2.439
50	SPAG4	2.536	51	PKLR	-2.42
51	COL6A3	2.526	50	IVNS1ABP	-2.392
52	ODZ2	2.477	49	FADS1	-2.379
53	CALHM2	2.475	48	PTN	-2.376
54	TFPI	2.45	47	HLA-DQA1	-2.366
55	WNT5A	2.423	46	DDB2	-2.354
56	CAV1	2.412	45	CLCN3	-2.352
57	TNRC6C	2.411	44	SLC5A10	-2.28
58	EPB41	2.399	43	C22orf15	-2.267
59	LMO7	2.398	42	SOX11	-2.257
60	ZNF687	2.385	41	SORT1	-2.256
61	RGS4	2.362	40	PCCA	-2.252
62	NOTCH2	2.359	39	SOX2	-2.222
63	MBNL1	2.359	38	CCNI2	-2.219
64	NOTCH2	2.359	37	DDR1	-2.214
65	EIF3B	2.354	36	SIRT5	-2.131
66	DDX58	2.34	35	FILIP1	-2.065
67	FNDC8	2.328	34	CCL2	-2.063
68	COL6A1	2.323	33	PAX6	-2.061
69	PLP2	2.295	32	HADHA	-2.032
70	SDC4	2.293	31	RAB31	-1.989
71	IRS1	2.285	30	ITGA3	-1.976
72	LTBP1	2.284	29	C8orf59	-1.928
73	PPP2R1B	2.277	28	HMGCR	-1.922
74	TXNIP	2.256	27	SMTNL1	-1.916
75	CSGALNACT2	2.256	26	DLEC1	-1.852
76	TXNIP	2.256	25	NAP1L4	-1.85
77	RPS4X	2.248	24	NRP2	-1.843
78	PRPF40B	2.239	23	TOP2A	-1.83
79	SFRS3	2.232	22	JMJD4	-1.818
80	GDF5OS	2.222	21	SEMA6A	-1.816
81	AP3M1	2.222	20	SLC25A19	-1.813
82	GDF5OS	2.222	19	PPP1CB	-1.811

61         PEG10         -2.638           60         HMGCS1         -2.627           59         TCFL5         -2.59           58         SLC15A3         -2.535           57         NMT1         -2.497           56         C17orf45         -2.485           55         CTTNBP2NL         -2.469           54         IPO4         -2.468           53         RAB41         -2.442           52         MTG1         -2.439           51         PKLR         -2.422           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.366           46         DB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.255           40         PCCA         -2.252           39         SOX2         -2.222           38         CCNI2         -2.063           33         PAX6	61 60 59 58	PEG10 HMGCS1 TCFL5 SLC15A3 NMT1 C17orf45	-2.638 -2.627 -2.59 -2.535
60         HMGCS1         -2.627           59         TCFL5         -2.59           58         SLC15A3         -2.535           57         NMT1         -2.497           56         C17orf45         -2.485           55         CTTNBP2NL         -2.469           54         IPO4         -2.468           53         RAB41         -2.442           52         MTG1         -2.439           51         PKLR         -2.422           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.366           46         DB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.255           40         PCCA         -2.252           39         SOX2         -2.222           38         CCNI2         -2.063           33         PAX6         -2.061           32         HADHA	60 59 58	HMGCS1 TCFL5 SLC15A3 NMT1 C17orf45	-2.627 -2.59 -2.535
59         TCFL5         -2.59           58         SLC15A3         -2.535           57         NMT1         -2.497           56         C17orf45         -2.485           55         CTTNBP2NL         -2.469           54         IPO4         -2.468           53         RAB41         -2.442           52         MTG1         -2.439           51         PKLR         -2.422           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.255           39         SOX2         -2.222           38         CCNI2         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA	59 58	TCFL5 SLC15A3 NMT1 C17orf45	-2.59 -2.535
58         SLC15A3         -2.535           57         NMT1         -2.497           56         C17orf45         -2.485           55         CTTNBP2NL         -2.469           54         IPO4         -2.463           53         RAB41         -2.442           52         MTG1         -2.439           51         PKLR         -2.42           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.256           40         PCCA         -2.252           39         SOX2         -2.222           38         CCNI2         -2.219           37         DDR1         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           33         PAX6         -2.061           32         HADHA         -2.032           33         PAX6	58	SLC15A3 NMT1 C17orf45	-2.535
57         NMT1         -2.497           56         C17orf45         -2.469           54         IPO4         -2.468           53         RAB41         -2.442           52         MTG1         -2.439           51         PKLR         -2.422           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.366           46         DDB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.257           41         SORT1         -2.256           40         PCCA         -2.252           39         SOX2         -2.222           38         CCNI2         -2.219           37         DDR1         -2.219           37         DDR1         -2.063           38         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.92	<b>F7</b>	NMT1 C17orf45	
56         C17orf45         -2.485           55         CTTNBP2NL         -2.469           54         IPO4         -2.442           52         MTG1         -2.439           51         PKLR         -2.42           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.366           46         DDB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.257           41         SORT1         -2.257           41         SORT1         -2.252           39         SOX2         -2.219           37         DDR1         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.989           30         ITGA3         -1.976           29         C8orf59	57	C17orf45	-2.497
55         CTTNBP2NL         -2.469           54         IPO4         -2.468           53         RAB41         -2.442           52         MTG1         -2.439           51         PKLR         -2.42           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.257           41         SORT1         -2.256           40         PCCA         -2.252           39         SOX2         -2.219           37         DDR1         -2.219           37         DDR1         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.928           24         MRGCR <t< td=""><td>56</td><td></td><td>-2.485</td></t<>	56		-2.485
54         IPO4         -2.468           53         RAB41         -2.442           52         MTG1         -2.439           51         PKLR         -2.42           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.366           46         DDB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.255           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.252           39         SOX2         -2.252           39         SOX2         -2.252           39         SOX2         -2.219           37         DR1         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.0	55	CTTNBP2NL	-2.469
53       RAB41       -2.442         52       MTG1       -2.439         51       PKLR       -2.42         50       IVNS1ABP       -2.392         49       FADS1       -2.379         48       PTN       -2.376         47       HLA-DQA1       -2.366         46       DDB2       -2.354         45       CLCN3       -2.352         44       SLC5A10       -2.28         43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.928         28       HMGCR       -1.928         28       HMGCR       -1.922         27       <	54	IPO4	-2.468
52         MTG1         -2.439           51         PKLR         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.366           46         DDB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.252           39         SOX2         -2.252           39         SOX2         -2.222           38         CCNI2         -2.219           37         DDR1         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.989           30         ITGA3         -1.928           28         HMGCR         -1.922           27         SMTNL1         -1.852           25         NAP1L4         -1	53	RAB41	-2.442
51         PKLR         -2.42           50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.366           46         DDB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.257           41         SORT1         -2.256           40         PCCA         -2.252           39         SOX2         -2.222           38         CCNI2         -2.219           37         DDR1         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.989           30         ITGA3         -1.928           28         HMGCR         -1.922           27         SMTNL1	52	MTG1	-2.439
50         IVNS1ABP         -2.392           49         FADS1         -2.379           48         PTN         -2.376           47         HLA-DQA1         -2.366           46         DDB2         -2.354           45         CLCN3         -2.352           44         SLC5A10         -2.28           43         C22orf15         -2.267           42         SOX11         -2.257           41         SORT1         -2.256           40         PCCA         -2.252           39         SOX2         -2.222           38         CCNI2         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.989           30         ITGA3         -1.976           29         C8orf59         -1.922           27         SMTNL1         -1.916           26         DLEC1         -1.852           25         NAP1L4	51	PKLR	-2.42
49       FADS1       -2.379         48       PTN       -2.376         47       HLA-DQA1       -2.366         46       DDB2       -2.354         45       CLCN3       -2.352         44       SLC5A10       -2.28         43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.852         25       NAP1L4       -1.852         24       NRP2       -1.843         23       TOP2A       -1.843         21	50	IVNS1ABP	-2.392
48       PTN       -2.376         47       HLA-DQA1       -2.366         46       DDB2       -2.354         45       CLCN3       -2.352         44       SLC5A10       -2.28         43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.852         25       NAP1L4       -1.852         25       NAP1L4       -1.833         22       JMJD4       -1.816	49	FADS1	-2.379
47       HLA-DQA1       -2.366         46       DDB2       -2.354         45       CLCN3       -2.352         44       SLC5A10       -2.28         43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.818         21       SEMA6A       -1.816	48	PTN	-2.376
46       DDB2       -2.354         45       CLCN3       -2.352         44       SLC5A10       -2.28         43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.852         24       NRP2       -1.843         23       TOP2A       -1.833         22       JMJD4       -1.816	47	HLA-DQA1	-2.366
45       CLCN3       -2.352         44       SLC5A10       -2.28         43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.83         23       TOP2A       -1.843         23       TOP2A       -1.816         21       SEMA6A       -1.816	46	DDB2	-2.354
44       SLC5A10       -2.28         43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.853         24       NRP2       -1.843         23       TOP2A       -1.818         21       SEMA6A       -1.816	45	CLCN3	-2.352
43       C22orf15       -2.267         42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	44	SLC5A10	-2.28
42       SOX11       -2.257         41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	43	C22orf15	-2.267
41       SORT1       -2.256         40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.818         21       SEMA6A       -1.816	42	SOX11	-2.257
40       PCCA       -2.252         39       SOX2       -2.222         38       CCNI2       -2.219         37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.852         24       NRP2       -1.843         23       TOP2A       -1.833         21       SEMA6A       -1.816	41	SORT1	-2.256
39         SOX2         -2.222           38         CCNI2         -2.219           37         DDR1         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.989           30         ITGA3         -1.976           29         C8orf59         -1.928           28         HMGCR         -1.922           27         SMTNL1         -1.916           26         DLEC1         -1.852           25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.818           21         SEMA6A         -1.816	40	РССА	-2.252
38         CCNI2         -2.219           37         DDR1         -2.214           36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.989           30         ITGA3         -1.976           29         C8orf59         -1.928           28         HMGCR         -1.922           27         SMTNL1         -1.916           26         DLEC1         -1.852           25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.818           21         SEMA6A         -1.816	39	SOX2	-2.222
37       DDR1       -2.214         36       SIRT5       -2.131         35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	38	CCNI2	-2.219
36         SIRT5         -2.131           35         FILIP1         -2.065           34         CCL2         -2.063           33         PAX6         -2.061           32         HADHA         -2.032           31         RAB31         -1.989           30         ITGA3         -1.976           29         C8orf59         -1.928           28         HMGCR         -1.922           27         SMTNL1         -1.916           26         DLEC1         -1.852           25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.83           21         SEMA6A         -1.816	37	DDR1	-2.214
35       FILIP1       -2.065         34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	36	SIRT5	-2.131
34       CCL2       -2.063         33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	35	FILIP1	-2.065
33       PAX6       -2.061         32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	34	CCL2	-2.063
32       HADHA       -2.032         31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	33	PAX6	-2.061
31       RAB31       -1.989         30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         21       SEMA6A       -1.816	32	HADHA	-2.032
30       ITGA3       -1.976         29       C8orf59       -1.928         28       HMGCR       -1.922         27       SMTNL1       -1.916         26       DLEC1       -1.852         25       NAP1L4       -1.85         24       NRP2       -1.843         23       TOP2A       -1.83         22       JMJD4       -1.818         21       SEMA6A       -1.816	31	RAB31	-1.989
29         C8orf59         -1.928           28         HMGCR         -1.922           27         SMTNL1         -1.916           26         DLEC1         -1.852           25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.83           21         SEMA6A         -1.816	30	ITGA3	-1.976
28         HMGCR         -1.922           27         SMTNL1         -1.916           26         DLEC1         -1.852           25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.83           22         JMJD4         -1.818           21         SEMA6A         -1.816	29	C8orf59	-1.928
27         SMTNL1         -1.916           26         DLEC1         -1.852           25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.83           22         JMJD4         -1.818           21         SEMA6A         -1.816	28	HMGCR	-1.922
26         DLEC1         -1.852           25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.83           22         JMJD4         -1.818           21         SEMA6A         -1.816	27	SMTNL1	-1.916
25         NAP1L4         -1.85           24         NRP2         -1.843           23         TOP2A         -1.83           22         JMJD4         -1.818           21         SEMA6A         -1.816	26	DLEC1	-1.852
24         NRP2         -1.843           23         TOP2A         -1.83           22         JMJD4         -1.818           21         SEMA6A         -1.816	25	NAP1L4	-1.85
23         TOP2A         -1.83           22         JMJD4         -1.818           21         SEMA6A         -1.816	24	NRP2	-1.843
22         JMJD4         -1.818           21         SEMA6A         -1.816	23	TOP2A	-1.83
21 SEMA6A -1.816	22	JMJD4	-1.818
	21	SEMA6A	-1.816
20 SLC25A19 -1.813	20	SLC25A19	-1.813
19 PPP1CB -1.811	19	PPP1CB	-1.811

83	GNG3	2.216
84	SAFB	2.21
85	DZIP1	2.197
86	ALDH1A3	2.184
87	SEC23A	2.168
88	RAB23	2.163
89	PLXNA4	2.155
90	EMILIN1	2.128
91	CLDN22	1.447
92	IFIH1	1.41
93	TJP1	1.363
94	IFIT2	0.636
95	IFIT3	0.557
96	STAT1	0.379
97	MX1	0.249
98	RSAD2	0.249
99	IFIT1	0.249

18	ACAD11	-1.799
17	NOX1	-1.79
15	TRAPPC2	-1.789
16	ECHDC1	-1.789
14	ZNF45	-1.788
13	FLJ35848	-1.755
12	CTSB	-1.751
11	FOXG1	-1.741
10	MYBBP1A	-1.737
9	SCD	-1.72
7	ZWILCH	-1.718
8	VPS13B	-1.718
6	STK11	-1.717
5	RNF220	-1.716
4	GEMIN7	-1.689
3	NDFIP1	-1.679
2	BID	-1.678
1	CA14	-1.627

Target	Species	Direction 5' – 3'	Sequence
CXCL11	Human	Forward	GCTATAGCCTTGGCTGTGATAT
		Reverse	GCCTTGCTTGCTTCGATTTGGG
GAPDH	Human	Forward	GAAGGTGAAGGTCGGAGTC
		Reverse	GAAGATGGTGATGGGATTTC
IFIT1	Human	Forward	GAAGGTGAAGGTCGGAGTC
		Reverse	GGCTGATATCTGGGTGCCTA
IFN-α	Human	Forward	GGTGCTCAGCTGCAAGTCAA
		Reverse	GCTACCCAGGCTGTGGGTT
IRF3	Human	Forward	ACCAGCCGTGGACCAAGAG
		Reverse	TACCAAGGCCCTGAGGCAC
IRF7	Human	Forward	TGGTCCTGGTGAAGCTGGAA
		Reverse	GATGTCGTCATAGAGGCTGTTGG
OAS1	Human	Forward	CAAGCTCAAGAGCCTCATCC
		Reverse	TGGGCTGTGTTGAAATGTGT
TLR3	Human	Forward	TCCCAAGCCTTCAACGACTG
		Reverse	TGGTGAAGGAGAGCTATCCACA
TLR7	Human	Forward	TTACCTGGATGGAAACCAGCTAC
		Reverse	TCAAGGCTGAGAAGCTGTAAGCTA
VCAM	Human	Forward	TTTGGGAACGAACACTCTTACC
		Reverse	CTTGACTGTGATCGGCTTCC
CCL2	Mouse	Forward	TGGCTCAGCCAGATGCAGT
		Reverse	TTGGGATCATCTTGCTGGTG
CXCL10	Mouse	Forward	GCCGTCATTTTCTGCCTCA
		Reverse	CGTCCTTGCGAGAGGGATC
GAPDH	Mouse	Forward	GGCAAATTCAACGGCACAGT
		Reverse	AGATGGTGATGGGCTTCCC
IFIT1	Mouse	Forward	CTGAGATGTCACTTCACATGGAA
		Reverse	GTGCATCCCCAATGGGTTCT
IFN-α	Mouse	Forward	CTTCCACAGGATCACTGTGTACCT
		Reverse	TTCTGCTCTGACCACCTCCC
IFN-β	Mouse	Forward	CTGGAGCAGCTGAATGGAAAG
-		Reverse	CTTCTCCGTCATCTCCATAGGG
IL-1β	Mouse	Forward	ACCTGTCCTGTGTAATGAAAGACG
•		Reverse	TGGGTATTGCTTGGGATCCA
OAS1	Mouse	Forward	GGGCCTCTAAAGGGGTCAAG
		Reverse	TCAAACTTCACTCCACAACGTC
TLR3	Mouse	Forward	CTCTTGAACAACGCCCAACT
		Reverse	GTCCACTTCAGCCCAGAGAA
TLR7	Mouse	Forward	ACAGAAATCCCTGAGGGCATT
		Reverse	CAGATGGTTCAGCCTACGGAAG
TNF-α	Mouse	Forward	GCACAGAAAGCATGATCCG
		Reverse	GCCCCCCATCTTTTGGG
VCAM	Mouse	Forward	CAAATCCTTGATACTGCTCAT
		Reverse	TTGACTTCTTGCTCACAGC
Viperin	Mouse	Forward	TGCTGGCTGAGAATAGCATTAGG
		Reverse	GCTGAGTGCTGTTCCCATCT

 Table S4: Primary sequences for qRT-PCR studies



**Figure S1: IFNAR deletion in astrocytes of** *Ifnar*<sup>fi/fl</sup> *Gfap-Cre*<sup>+</sup>*mice.* (a) IHC detection of astrocyte marker ALDH1L1 (green) and IFNAR (red) in the cerebral cortex and cerebellum of uninfected *Ifnar*<sup>fi/fl</sup> and *Ifnar*<sup>fi/fl</sup> *Gfap-*Cre<sup>+</sup>*mice.* Nuclei are shown in blue. Colocalized signal is shown in white. Images are representative of at least 4 images taken for each of 5 independent mice per genotype. (b) Quantification of colocalized signal of images represented in (a). Values are reported as percent of double positive pixels in Cre<sup>+</sup> mice compared to mean values for Cre<sup>-</sup>mice. Values in (b) are derived from 5 independent mice per genotype.



**Figure S2: IFNAR expression in neurons and microglia of** *Ifnar*<sup>fl/fl</sup> *Gfap-Cre*<sup>+</sup>*mice.* (a) IHC detection of neuron marker MAP2 or microglial marker IBA-1 (green) and IFNAR (red) in the cerebral cortex and cerebellum of naïve *Ifnar*<sup>fl/fl</sup> and *Ifnar*<sup>fl/fl</sup> *Gfap-Cre*<sup>+</sup> mice. Nuclei are shown in blue. Colocalized signal is shown in white. Images are representative of at least 4 images taken for each of 4 independent mice per genotype. (b) Quantification of colocalized signal of images represented in (a). Values are reported as percent of double positive pixels in Cre<sup>+</sup> mice compared to mean values for Cre<sup>-</sup> mice. (c) Control stains using a matched IgG isotype antibody in *Ifnar*<sup>fl/fl</sup> (left) or IFNAR antibody in *Ifnar*<sup>fl/fl</sup> *Gfap-Cre<sup>+</sup>* mice. Cycle threshold (Ct) values were normalized to Ct values of the housekeeping gene GAPDH. Values in (b) and (d) are derived from 4 or 5 independent mice per genotype, respectively.



**Figure S3: Peripheral organ titers following subcutaneous inoculation.** Mice in (**ad**) were infected subcutaneously with WNV (New York 2000). Peripheral organs were harvested on indicated days and assessed for viral burden by standard plaque assay. All values collected from 4-6 mice per group, and were pooled from two independent experiments. All data were compared via Mann-Whitney test.



**Figure S4: CNS titers following intracerebellar inoculation with WNV-Madagascar.** Mice were inoculated via intracerebellar route with 10<sup>4</sup> PFU of WNV-Madagascar and CNS regions were harvested on indicated days following infection. Brain regions were assayed for viral burden by standard plaque assay. Data are pooled from two independent experiments with a total of 5 mice per group. All data were compared via Mann-Whitney test.



Figure S5: WNV-E protein staining localization in CNS following intracerebellar inoculation. Mice were infected via the intracerebellar route with 10 pfu WNV. Brains were removed on day 6 after infection and stained for WNV-E protein (green) and the neuronal marker NeuN, astrocyte marker GFAP, microglial marker IBA-1, or OPC marker NG2 (red). Nuclei in blue. Scale bar = 50  $\mu$ m. Images are representative of at least 4 images taken for each of 5 independent mice per genotype.



**Figure S6: CNS cytokine expression following subcutaneous WNV infection. (a-d)** ELISA analysis of indicated cytokine measured in homogenates of cerebral cortex or cerebellum harvested on day indicated following subcutaneous WNV infection. Data in **(a-d)** are mean values +/- SEM taken from 3 mice per genotype. All data were compared via two-way ANOVA.



IBA1 CD45 Topro3

**Figure S7: CNS immune cell trafficking following subcutaneous WNV infection.** (**a**-**b**) Flow cytometric analysis of CNS immune cell infiltrates on day 8 following subcutaneous WNV infection. Values are total number of CD45<sup>hi</sup> CD4<sup>+</sup> and CD45<sup>hi</sup> CD8<sup>+</sup> lymphocytes expressing IFN- $\gamma$  as well as CD45<sup>lo</sup> CD11b<sup>+</sup> (microglia) and CD45<sup>hi</sup> CD11b<sup>+</sup> (macrophages) isolated from (**a**) cortex or (**b**) cerebellum (after exclusion of doublets and dead cell debris). (**c**) IHC analysis of myeloid cells in cerebellar tissues of mice on D6 following intracerebellar inoculation with 10pfu WNV. Resident microglia are defined as IBA1<sup>+</sup> (red) CD45<sup>neg-lo</sup> (green), while infiltrating monocytes/macrophages are identified as IBA1<sup>+</sup> CD45<sup>hi</sup>. Colocalized pixels are shown in the pixel masked images to the right of merged RGB images. Data in (**a-b**) are mean values +/- SEM taken from 6 mice collected from two independent experiments. All data were compared via unpaired, two-tailed student's t-test.



Figure S8: VCAM-1 expression in astrocytes *in vitro* and in the cerebral cortex *in vivo* following infection. (a-b) VCAM-1 mRNA levels were detected via SYBR qRT-PCR. (a) VCAM-1 mRNA levels were detected in the cerebral cortex of mice taken on indicated days following subcutaneous infection. Data for individual mice are normalized to expression of GAPDH. (b) VCAM-1 mRNA levels in primary adult human cerebral cortical astrocytes (left) or primary murine neonatal cerebral cortical astrocytes (right) following 4 h treatment with 10 U/mI of IFN- $\beta$ . All data were compared via two-way ANOVA.



**Figure S9: ISG expression in primary murine cerebral cortical and cerebellar astrocyte cultures.** (a) Primary murine cerebral cortical or cerebellar astrocytes were assayed for basal expression of IFN receptors via Taqman qRT-PCR. Ct values are normalized to 18S ribosomal RNA (rRNA). (b-h) Astrocyte cultures were treated with 10 U/ml recombinant IFN- $\beta$  or saline vehicle and analyzed for transcript expression of indicated genes at 4 hours post treatment via SYBR qRT-PCR. Ct values for all genes were normalized to Ct values of the housekeeping gene GAPDH. (i) Astrocyte cultures were treated as in (b-h) for 8 hours. Protein lysates were analyzed via western blot for expression of IFIT1 and IFIT2. Density values of individual samples are normalized to matched values for actin. Group means are normalized to mean values of PBS treated cortical astrocytes. Data in (a-h) represent 6 replicates taken from two independent experiments. Data in (i) are representative blots with quantification of three replicates derived from two independent experiments. All data were compared via two-way ANOVA.