**Supplemental Tables**

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**Supplemental Table 1**: Temperature shift data of I-CBP112 against a panel of human bromodomains. The values represent the average of three independent measurements.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Protein | ΔTm [ºC] | | |  | Protein | ΔTm [ºC] | | |
| 1 | ASH1L | 0.24 | ± | 0.26 | 23 | KIAA1240 | 0.05 | ± | 0.14 |
| 2 | ATAD2 | 0.14 | ± | 0.56 | 24 | LOC93349# | 0.65 | ± | 0.61 |
| 3 | BAZ1A | 0.16 | ± | 1.20 | 25 | PB1(1) | 0.77 | ± | 0.80 |
| 4 | BAZ2A | 0.17 | ± | 0.41 | 26 | PB1(2) | 0.13 | ± | 0.28 |
| 5 | BAZ2B | 0.12 | ± | 0.16 | 27 | PB1(3) | -0.24 | ± | 0.23 |
| 6 | BRD1 | 0.43 | ± | 0.35 | 28 | PB1(4) | 0.28 | ± | 0.62 |
| 7 | BRD2(1) | 1.35 | ± | 0.48 | 29 | PB1(5) | 0.11 | ± | 0.20 |
| 8 | BRD2(2) | 0.87 | ± | 0.28 | 30 | PB1(6) | -0.04 | ± | 0.28 |
| 9 | BRD3(1) | 1.55 | ± | 0.44 | 31 | PCAF | -0.01 | ± | 0.29 |
| 10 | BRD3(2) | 0.94 | ± | 0.25 | 32 | PHIP(2) | 0.62 | ± | 0.49 |
| 11 | BRD4(1) | 2.09 | ± | 0.41 | 33 | SMARCA2 | -0.02 | ± | 0.15 |
| 12 | BRD4(2) | 0.58 | ± | 0.20 | 34 | SMARCA4 | 0.36 | ± | 0.16 |
| 13 | BRDT(1) | 0.68 | ± | 0.43 | 35 | SP140 | -0.64 | ± | 0.86 |
| 14 | BRD9 | 0.20 | ± | 0.17 | 36 | TAF1(1) | 0.16 | ± | 0.17 |
| 15 | BRPF1 | 0.19 | ± | 0.60 | 37 | TAF1(2) | -0.13 | ± | 0.30 |
| 16 | BRPF3 | 0.07 | ± | 0.63 | 38 | TAF1L(1) | 0.12 | ± | 0.40 |
| 17 | BRWD3(2) | 0.64 | ± | 1.16 | 39 | TAF1L(2) | -0.04 | ± | 0.45 |
| 18 | CECR2 | 0.43 | ± | 0.19 | 40 | TIF1A# | 0.32 | ± | 0.31 |
| 19 | CREBBP | 7.77 | ± | 0.53 | 41 | TIF1A(PHD) | 0.26 | ± | 0.68 |
| 20 | EP300 | 8.69 | ± | 0.28 | 42 | TRIM28# | -0.42 | ± | 0.51 |
| 21 | FALZ | 0.63 | ± | 0.14 | 43 | TRIM66 | 0.15 | ± | 0.41 |
| 22 | GCN5L2 | 0.54 | ± | 0.27 | 44 | WDR9(2) | -0.33 | ± | 0.56 |

# PDH/BRD dual domain construct

**Supplemental Table 2:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Protein** | **[P] (μM)** | **[L] (μM)** | **N** | **Kd**  **(nM)** | **Δ*Hobs* (cal/mol)** | **TΔS (kcal/mol)** | **ΔG (kcal/mol)** |
| CBP | 195 | 20 | 0.98 | 151 | -9031 ± 25.8 | -0.0380 | -8.99 |
| EP300 | 248 | 20 | 0.97 | 167 | -9291 ± 34.5 | -0.3456 | -8.94 |
| BRD4(1) | 450 | 17 | 1.01 | 5587 | -5363 ± 129.0 | 1.5638 | -6.92 |
| BRD4(2) | 440 | 17 | 0.96 | 20000 | -3704 ± 330.4 | 2.4912 | -6.19 |

Errors shown are errors of the non-linear least square fits. Measurements have been carried out at 15 ºC. [P] and [L] show the protein and ligand concentration used in the different experiments.

**Supplemental Table 2:** Isothermal Titration Calorimetry measurements of the interaction of I-CBP112 with bromodomains

**Supplemental Table 3A (CEREP selectivity data (enzymes))**

|  |  |  |
| --- | --- | --- |
| **Enzyme assay** | **%[Inhibition]**  **at 10 M**  **(I-CBP112) (S)** | **%[ Inhibition]**  **at 10 M**  **(I-CBP112) (R)** |
| COX1 | -33 | -4 |
| COX2 | 2 | 14 |
| inducible NOS | -35 | -37 |
| PDE2A1 | 4 | 2 |
| PDE3B | 0 | 0 |
| PDE4D2 | 14 | 15 |
| PDE5 (non-selective) | -2 | -1 |
| PDE6 (non-selective) | 8 | 6 |
| ACE | -7 | -21 |
| ACE-2 | 7 | 6 |
| BACE-1 (beta -secretase) | 4 | -1 |
| caspase-3 | -7 | -6 |
| HIV-1 protease | -3 | -1 |
| neutral endopeptidase (h) | 2 | 6 |
| MMP-1 | -11 | -17 |
| MMP-2 | 16 | 12 |
| MMP-9 | -15 | -2 |
| Abl kinase | 3 | 0 |
| CaMK2alpha | 0 | 0 |
| CDK2 (cycA) | -1 | 2 |
| ERK2 (P42mapk) | 7 | -1 |
| FLT-1 kinase (VEGFR1) | -3 | 5 |
| Fyn kinase | -4 | -3 |
| IRK (InsR) | 20 | -1 |
| Lyn A kinase | -1 | -7 |
| p38alpha kinase | -1 | -1 |
| ZAP70 kinase | -2 | 11 |
| acetylcholinesterase | 21 | 28 |
| COMT (catechol- O-methyl transferase) | -4 | 5 |
| xanthine oxidase/ superoxide O2- scavenging | 5 | -8 |
| ATPase (Na+/K+) | 0 | 0 |

**Supplemental Table 3 B (CEREP selectivity data (GPCRs and ion channels))**

|  |  |  |
| --- | --- | --- |
| **GPCR Assay** | **%[I] at 10 M**  **(I-CBP112) (S)** | **%[I] at 10 M**  **(I-CBP112) (R)** |
| A1 (ago. r.) | 4 | -5 |
| A2A (ago. r.) | 11 | 1 |
| A2B (anta. r.) | -4 | -13 |
| A3 (ago. r.) | -7 | -4 |
| alpha 1A (anta. r.) | 89 | 89 |
| alpha 1B (anta. r.) | 21 | 52 |
| alpha 2A (anta. r.) | 18 | 24 |
| alpha 2B (anta. r.) | -9 | 49 |
| alpha 2C (anta. r.) | 39 | 50 |
| beta 1 (ago. r.) | -4 | -9 |
| beta 2 (ago. r.) | 0 | 1 |
| beta 3 (anta. r.) | -3 | -15 |
| AT1 (anta. r.) | 21 | 9 |
| AT2 (ago. r.) | -8 | -1 |
| APJ (apelin) (ago. r.) | -3 | -1 |
| BZD (central) (ago. r.) | -5 | -12 |
| BB3 (ago. r.) | -10 | -22 |
| B2 (ago. r.) | -5 | -7 |
| CB1 (ago. r.) | -5 | 0 |
| CB2 (ago. r.) | 2 | 5 |
| CCK1 (CCKA) (ago. r.) | 6 | -6 |
| CCK2 (CCKB) (ago. r.) | -4 | -10 |
| CRF1 (ago. r.) | -19 | -26 |
| D1 (anta. r.) | 11 | 17 |
| D2S (ago. r.) | 12 | 28 |
| D3 (anta. r.) | -2 | 18 |
| ETA (ago. r.) | -2 | -27 |
| ETB (ago. r.) | -5 | -2 |
| GABAA1 (alpha 1,2,2) (ago. r.) | 12 | -6 |
| GABAB(1b) (anta. r.) | 0 | 4 |
| glucagon (ago. r.) | -8 | -16 |
| AMPA (ago. r.) | -14 | -14 |
| kainate ago. r.) | -7 | -2 |
| NMDA (anta. r.) | -16 | 0 |
| glycine (strychnine-insensitive)(anta. r.) | 0 | 3 |
| TNF-alpha (ago. r.) | -4 | 14 |
| CCR2 (ago. r.) | -10 | 0 |
| H1 (anta. r.) | 5 | -8 |
| H2 (anta. r.) | 3 | 7 |
| H3 (ago. r.) | 3 | -5 |
| H4 (ago. r.) | 2 | -3 |
| BLT1 (LTB4) (ago. r.) | 0 | -1 |
| CysLT1 (LTD4) (ago. r.) | -12 | -21 |
| MCH1 (ago. r.) | 7 | -9 |
| MC1(ago. r.) | 0 | 0 |
| MC3 (ago. r.) | -6 | -21 |
| MC4 (ago. r.) | -10 | 0 |
| MT1 (ML1A) (ago. r.) | -15 | -11 |
| MT3 (ML2) (ago. r.) | 45 | 54 |
| MAO-A (anta. r.) | -6 | -5 |
| motilin (ago. r.) | -1 | 2 |
| M1 (anta. r.) | 38 | 48 |
| M2 (anta. r.) | 67 | 49 |
| M3 (anta. r.) | 20 | 35 |
| M4 (anta. r.) | 74 | 63 |
| NK1 (ago. r.) | 4 | 8 |
| NK2 (ago. r.) | -8 | 2 |
| Y1 (ago. r.) | -10 | -10 |
| N neuronal alpha 4beta 2 (ago. r.) | 23 | 20 |
| N muscle-type (anta. r.) | 19 | 19 |
| delta 2 (DOP) (ago. r.) | 8 | -7 |
| kappa (KOP) (ago. r.) | -6 | -9 |
| mu (MOP) (ago. r.) | 3 | 5 |
| NOP (ORL1) (ago. r.) | 6 | 1 |
| PPARgamma (ago. r.) | -8 | -9 |
| PAF (ago. r.) | 9 | 11 |
| PCP (anta. r.) | -4 | 3 |
| EP2 (ago. r.) | 9 | 8 |
| FP (ago. r.) | -4 | -5 |
| IP (PGI2) (ago. r.) | -6 | -15 |
| LXRbeta (ago. r.) | 15 | 15 |
| 5-HT1A (ago. r.) | 16 | 58 |
| 5-HT1B (anta. r.) | 9 | 46 |
| 5-HT1D (ago. r.) | 18 | -1 |
| 5-HT2A (ago. r.) | 30 | 62 |
| 5-HT2B (ago. r.) | -17 | 7 |
| 5-HT2C (ago. r.) | 11 | 52 |
| 5-HT3 (anta. r.) | 3 | -11 |
| 5-HT4e (anta. r.) | 32 | 18 |
| 5-HT6 (ago. r.) | -6 | -3 |
| 5-HT7 (ago. r.) | 6 | 10 |
| sigma (non-selective) (ago. r.) | 46 | 15 |
| sst1 (ago. r.) | 15 | 16 |
| sst4 (ago. r.) | -7 | -7 |
| GR (ago. r.) | -5 | -1 |
| ERalpha (agonist fluoligand) | 5 | 2 |
| AR (ago. r.) | -3 | -24 |
| TR (TH) (ago. r.) | -26 | -29 |
| UT (ago. r.) | 8 | 21 |
| VPAC1 (VIP1) (ago. r.) | -2 | 1 |
| V1a (ago. r.) | 4 | -2 |
| V2 (ago. r.) | 4 | -6 |
| Ca2+ channel (L, dihydropyridine site) (anta. r.) | 4 | 7 |
| Ca2+ channel (L, diltiazem site) (benzothiazepines)(anta. r.) | 38 | 12 |
| Ca2+ channel (L, verapamil site) (phenylalkylamine) (anta. r.) | 19 | 23 |
| Ca2+ channel (N) (anta. r.) | 13 | -15 |
| SKCa channel (anta. r.) | 6 | 4 |
| Na+ channel (site 2) (anta. r.) | 11 | 8 |
| Cl- channel (GABA-gated) (anta. r.) | -48 | -15 |
| norepinephrine transporter (anta. r.) | 0 | -8 |
| dopamine transporter (anta. r.) | -3 | -9 |
| GABA transporter (anta. r.) | 0 | 3 |
| choline transporter (CHT1) (anta. r.) | 8 | 4 |
| 5-HT transporter (anta. r.) | -30 | -9 |

Assay data were provided by Cerep. Details on assay conditions and control compounds used can be found on the Cerep home page (<http://www.cerep.fr/Cerep/Users/index.asp>). Data are shown as [%] inhibition at 10 M compound concentration, (ago.r.) means (agonist radioligand) and (anta. r.) (antagonist radioligand), respectively.

**Supplemental Table 4**:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Protein** | **Peptide** | **KD**  **(μM)** | **Δ*H*obs**  **(kcal/mol)** | **N** | **TΔ*S***  **(kcal/mol)** | **Δ*G***  **(kcal/mol)** |
| **CBP** | H3K56 | 13.8 ± 0.4 | -7.9 ± 0.1 | 0.966 | -1.6 | -6.30 |
| H4K5/K8 | 31.0 ± 0.5 | -13.7 ± 0.2 | 0.581 | -7.8 | -5.85 |
| H4K5/K8/K12 | 29.0 ± 0.7 | -14.8 ± 0.3 | 0.508 | -8.9 | -5.89 |
| **P300** | H4K5/K8/K12 | 28.7 ± 0.6 | -14.1 ± 0.2 | 0.602 | -8.2 | -5.90 |

Histone peptide sequences used in Isothermal Titration Calorimetry experiments.

|  |  |
| --- | --- |
| **Histone Marks** | **Peptide Sequence** |
| H3K56 | IRRYQ**Kac**STELL |
| H4K5/K8 | SGRG**Kac**GG**Kac**GLG**Y** |
| H4K5/K8/K12 | RG**Kac**GG**Kac**GLG**Kac**GG**Y** |

**Supplemental Table 4:** – Isothermal Titration Calorimetry of human CBP and p300 bromodomains with acetylated histone peptides. Titrations were carried out in 50 mM HEPES pH 7.5 (at 25 °C), 150 mM NaCl and 10 °C while stirring at 1000 rpm. Peptides were titrated into the protein solution.

### Supplemental Table 5 – Diffraction data collection and structure refinement statistics

|  |  |
| --- | --- |
| **Data Collection** |  |
| PDB ID | 4NR6 |
| Protein/Ligand | CBP/I-CBP112 |
| Space group | C2 |
| Cell dimensions: a, b, c (Å)  α, β, γ (deg) | 89.71 34.14 40.40  90.00 93.00 90.00 |
| Resolution\* (Å) (last shell) | 1.66 (1.75-1.66) |
| Unique observations\* | 14891 (2113) |
| Completeness\* (%) | 99.0 (97.9) |
| Redundancy\* | 3.4 (3.1) |
| Rmerge\* | 0.063 (0.478) |
| I/ σI\* | 10.7 (2.1) |
| **Refinement** |  |
| Resolution (Å) | 1.66 |
| Rwork / Rfree (%) | 18.1/23.1 |
| Number of atoms  (protein/other/water) | 971/108/34 |
| B-factors (Å2)  (protein/other/water)21.85 | 28.75/32.55/29.79 |
| r.m.s.d bonds (Å)  r.m.s.d angles (o) | 0.015  1.698 |
| Ramachadran Favoured (%)  Allowed (%)  Disallowed (%) | 100.00  0.00  0.00 |

\* Values in parentheses correspond to the highest resolution shell.

**Supplemental Table 6**: Significantly regulated genes by exposure to I-CBP112 in KASUMI-1 cells after a 4 day exposure.

|  |  |  |
| --- | --- | --- |
| **SYMBOL** | **ACCESSION** | **logFC** |
| RNASE2 | NM\_002934.2 | -1.877835933 |
| FCGR1B | NM\_001017986.1 | -1.702248652 |
| TNFSF13B | NM\_006573.3 | -1.67989315 |
| SLC2A5 | NM\_003039.1 | -1.672716922 |
| ANKRD22 | NM\_144590.2 | -1.627742908 |
| TNFSF13B | NM\_006573.3 | -1.602234026 |
| TRH | NM\_007117.1 | -1.427931544 |
| DHRS9 | NM\_005771.3 | -1.417342182 |
| RN7SK | NR\_001445.1 | 1.401097459 |
| FCGR1A | NM\_000566.2 | -1.400344501 |
| ANKRD22 | NM\_144590.1 | -1.36621096 |
| HIST1H2BD | NM\_138720.1 | 1.329553007 |
| CTSG | NM\_001911.2 | -1.30647185 |
| TP53INP1 | NM\_033285.2 | 1.292337987 |
| TP53INP1 | NM\_033285.2 | 1.284178791 |
| PDE4B | NM\_002600.3 | -1.275221813 |
|  | BU521176 | 1.266766603 |
| SLC18A2 | NM\_003054.2 | -1.226578349 |
| GAL | NM\_015973.3 | -1.193818971 |
| P2RY13 | NM\_023914.2 | -1.187211052 |
| LILRA2 | NM\_006866.1 | -1.177311285 |
| CLEC5A | NM\_013252.2 | -1.164826148 |
| TGM5 | NM\_004245.2 | -1.150686072 |
| PRIC285 | NM\_033405.2 | 1.147669149 |
| RNASE3 | NM\_002935.2 | -1.13822367 |
| CA2 | NM\_000067.1 | -1.116445878 |
| RNU1G2 | NR\_004426.1 | 1.111258156 |
| IRF8 | NM\_002163.2 | -1.108626173 |
| LOC100008588 | NR\_003286.1 | 1.102030627 |
| CFC1B | NM\_001079530.1 | -1.098726204 |
| FCGR1B | NM\_001004340.1 | -1.079403736 |
| SLC22A4 | NM\_003059.2 | -1.078694844 |
| IL8 | NM\_000584.2 | -1.07207046 |
| LOC643332 | XR\_016287.1 | -1.065588146 |
| TCTEX1D1 | NM\_152665.1 | -1.063047603 |
| ARHGAP5 | NM\_001173.2 | -1.057545115 |
| RNU1A3 | NR\_004430.1 | 1.045536953 |
| LCP1 | NM\_002298.2 | -1.039447122 |
| CLECL1 | NM\_172004.2 | -1.033544741 |
| LOC100008589 | NR\_003287.1 | 1.03060784 |
| TCEA3 | NM\_003196.1 | -1.025015506 |
| SLC44A2 | NM\_020428.2 | 1.023368002 |
| KIAA1666 | XM\_942124.2 | 1.022623989 |
| RNU1-3 | NR\_004408.1 | 1.02212079 |
| GATS | NM\_178831.4 | 1.01158528 |
| RN7SK | NR\_001445.1 | 1.010060857 |
| IGFBP7 | NM\_001553.1 | -1.007405198 |
| ITM2A | NM\_004867.3 | 1.003967171 |
| LMNA | NM\_005572.3 | 0.996687984 |
| ABTB1 | NM\_032548.2 | 0.986131497 |
| MXD4 | NM\_006454.2 | 0.980475523 |
| RNU1-5 | NR\_004400.1 | 0.977493995 |
| SERPINA1 | NM\_001002236.1 | -0.976151167 |
| IL11RA | NM\_004512.3 | 0.975740714 |
| VSIG4 | NM\_007268.2 | -0.965293232 |
| DNAH10 | NM\_001083900.1 | -0.956736082 |
| ID2 | NM\_002166.4 | 0.945885703 |
| LOC730517 | XM\_001126166.1 | -0.94501104 |
| ALOX5 | XM\_001127464.1 | 0.927333724 |
| ID2 | NM\_002166.4 | 0.926328665 |
| NPTX1 | NM\_002522.2 | -0.9251063 |
| CUGBP2 | NM\_001025076.2 | 0.923891112 |
| LOC100132394 | XM\_001713809.1 | 0.92349068 |
| KLHL24 | NM\_017644.3 | 0.923149838 |
| CCL5 | NM\_002985.2 | -0.920773455 |
| NCRNA00085 | NR\_024330.1 | 0.91845852 |
| FCGR1C | NM\_001128589.1 | -0.916015504 |
| LPP | NM\_005578.2 | 0.913557764 |
| TGM5 | NM\_201631.2 | -0.911908708 |
| CCDC92 | NM\_025140.1 | 0.911353818 |
| SIGLEC12 | NM\_053003.2 | -0.910665443 |
| PLAC8 | NM\_016619.1 | -0.909829172 |
| ADCY6 | NM\_020983.2 | 0.909384648 |
| P2RY13 | NM\_176894.1 | -0.909315511 |
| PLAC8 | NM\_016619.1 | -0.908090985 |
| LOC100133565 | XM\_001724542.1 | 0.905216492 |
| KIF1A | NM\_004321.4 | -0.900979672 |
| LOC100132564 | XM\_001713808.1 | 0.893565916 |
| PTRF | NM\_012232.3 | 0.892204925 |
| SERPINA1 | NM\_001002235.1 | -0.888617683 |
| YPEL5 | NM\_016061.1 | 0.886604293 |
| MLKL | XM\_001126647.1 | -0.885082105 |
| LOC727877 | XM\_001126181.1 | 0.883305271 |
| CCL5 | NM\_002985.2 | -0.879878746 |
| PRSSL1 | NM\_214710.2 | -0.875868217 |
| RNU4-2 | NR\_003137.2 | 0.874835085 |
| SMPDL3B | NM\_014474.2 | -0.872676098 |
| TM7SF2 | NM\_003273.2 | 0.86554732 |
| KIAA1370 | NM\_019600.2 | 0.862331804 |
| NINJ2 | NM\_016533.4 | -0.855603147 |
| TMEM71 | NM\_144649.1 | 0.855409203 |
| RGL4 | NM\_153615.1 | -0.854372522 |
| TESK2 | NM\_007170.2 | 0.853568261 |
| RASSF2 | NM\_170773.1 | 0.8534815 |
| NCOA3 | NM\_181659.1 | 0.849884433 |
| LOC100008589 | NR\_003287.1 | 0.848939478 |
| INSIG1 | NM\_198336.1 | -0.848246145 |
| DLK1 | NM\_003836.4 | -0.846431063 |
| HIST1H2AC | NM\_003512.3 | 0.843040423 |
| CA2 | NM\_000067.1 | -0.841206782 |
| SECISBP2L | NM\_014701.2 | 0.837905551 |
|  | CA841942 | 0.834963108 |
| RPS6KA2 | NM\_001006932.1 | 0.833074165 |
| LGALS12 | NM\_033101.2 | -0.831446232 |
| SRGN | NM\_002727.2 | -0.830685962 |
| RNU6-1 | NR\_004394.1 | 0.829563839 |
| STMN3 | NM\_015894.2 | 0.829339729 |
| C1orf63 | NM\_020317.3 | 0.828028355 |
| FTHL12 | NR\_002205.1 | 0.825968874 |
| CCNG2 | NM\_004354.1 | 0.824977259 |
| CYTH2 | NM\_017457.4 | 0.824749723 |
| SMPDL3B | NM\_014474.2 | -0.823444679 |
| SAT2 | NM\_133491.2 | 0.822114216 |
| ZFP36L1 | NM\_004926.2 | 0.820692762 |
| LOC441763 | XM\_930284.1 | 0.819514952 |
| KRCC1 | NM\_016618.1 | 0.818167224 |
| CHST4 | NM\_005769.1 | -0.81320542 |
| ABCB1 | NM\_000927.3 | 0.812903278 |
| STOM | NM\_004099.4 | -0.811988893 |
| SH3GLB2 | NM\_020145.2 | 0.81025036 |
| OCIAD2 | NM\_001014446.1 | 0.809796052 |
| MT2A | NM\_005953.2 | -0.808054071 |
| FTHL16 | XR\_041433.1 | 0.805749392 |
| NCOA7 | NM\_181782.2 | -0.805381486 |
| ALOX5AP | NM\_001629.2 | -0.80425683 |
| ITM2C | NM\_001012516.1 | 0.800105429 |
| LBR | NM\_002296.2 | -0.798207513 |
| FTHL8 | NR\_002203.1 | 0.794555377 |
| RNU6-15 | NR\_028372.1 | 0.794393014 |
| DHRS9 | NM\_005771.3 | -0.793265337 |
| NCF2 | NM\_000433.2 | -0.791115019 |
| ITM2C | NM\_001012516.1 | 0.790243251 |
| VSTM1 | NM\_198481.3 | -0.788502886 |
| NFE2 | NM\_006163.1 | -0.78583396 |
| KIAA1370 | NM\_019600.1 | 0.783799882 |
| CD247 | NM\_000734.2 | -0.783573864 |
| DRAM1 | NM\_018370.2 | -0.780332899 |
| TRPT1 | NM\_031472.2 | 0.780034716 |
| LAMA5 | NM\_005560.3 | 0.77978001 |
| SLC22A4 | NM\_003059.2 | -0.778123798 |
|  | U62823 | 0.777208339 |
| CEACAM6 | NM\_002483.3 | -0.776121412 |
| LAX1 | NM\_017773.2 | -0.77448784 |
| CAPN5 | NM\_004055.4 | 0.77336783 |
| GAPT | NM\_152687.2 | -0.772746224 |
|  | AK092638 | 0.772226064 |
| EMR2 | NM\_152916.1 | 0.770953593 |
| CCM2 | NM\_001029835.1 | 0.76700636 |
| LOC338758 | XM\_931359.2 | 0.766703959 |
| LOC100134364 | XM\_001713810.1 | 0.766591561 |
| BMF | NM\_033503.3 | 0.764226844 |
|  | BC035116 | 0.762094469 |
| TP53I3 | NM\_147184.1 | 0.760896032 |
| SLC22A18 | NM\_002555.3 | 0.76042985 |
| CSF3R | NM\_172313.1 | -0.759201113 |
| SESN1 | NM\_014454.1 | 0.756629772 |
| ITGA3 | NM\_002204.1 | 0.755436013 |
| FTHL11 | NR\_002204.1 | 0.755052893 |
| ST3GAL6 | NM\_006100.2 | -0.753690727 |
| RET | NM\_020975.4 | -0.752906428 |
| GPR84 | NM\_020370.1 | -0.752814282 |
| KIAA0913 | NM\_015037.2 | 0.750458835 |
| EAF2 | NM\_018456.4 | -0.74608937 |
| AGTRAP | NM\_001040196.1 | -0.745490903 |
| PIK3IP1 | NM\_052880.3 | 0.744644082 |
| HBP1 | NM\_012257.3 | 0.744163883 |
| FAM116B | NM\_001001794.2 | 0.740225594 |
| KIAA1683 | NM\_025249.1 | 0.738507873 |
| ID3 | NM\_002167.2 | 0.737841726 |
| ECHDC2 | NM\_018281.2 | 0.73715926 |
| POLR3G | NM\_006467.2 | -0.735486629 |
| LOC730517 | XM\_001715215.1 | -0.732031558 |
| HLA-DMA | NM\_006120.2 | 0.731783475 |
| SHISA2 | NM\_001007538.1 | -0.731193571 |
| CCM2 | NM\_001029835.1 | 0.730566218 |
| IRF7 | NM\_004029.2 | 0.73052072 |
| MERTK | NM\_006343.2 | 0.730178672 |
| CCNG1 | NM\_199246.1 | 0.730060899 |
|  | AK055652 | 0.7274365 |
| AIF1 | NM\_032955.1 | -0.726402363 |
| NDRG1 | NM\_006096.2 | 0.724979086 |
| C1orf63 | NM\_207035.1 | 0.724226792 |
| S100P | NM\_005980.2 | -0.721819575 |
| CUGBP2 | NM\_006561.2 | 0.720962508 |
| SSBP2 | NM\_012446.2 | 0.7209271 |
| RGL1 | NM\_015149.3 | 0.720319412 |
|  | AF131784 | 0.717526357 |
| NMI | NM\_004688.1 | -0.716831381 |
| CTSB | NM\_001908.3 | 0.716777886 |
| ECE2 | NM\_014693.2 | -0.715872055 |
| BTG1 | NM\_001731.1 | 0.715026787 |
| CD247 | NM\_198053.1 | -0.712791412 |
| LMNA | NM\_005572.3 | 0.712283107 |
| RNU1F1 | NR\_004402.1 | 0.709590265 |
| LOC100133999 | XM\_001716785.1 | 0.709133489 |
| AMT | NM\_000481.2 | 0.708810348 |
| FTHL7 | NR\_002202.2 | 0.705767355 |
| XPOT | NM\_007235.3 | -0.705013519 |
| IL1RAP | NM\_002182.2 | -0.704628555 |
| IL1RAP | NM\_134470.2 | -0.703317255 |
| MGST1 | NM\_020300.3 | -0.701071913 |
| RPS7 | NM\_001011.3 | -0.698490687 |
| RNU6ATAC | NR\_023344.1 | 0.697287569 |
| GSN | NM\_198252.2 | -0.695932003 |
| PCBP4 | NM\_020418.2 | 0.694727061 |
| KLF12 | NM\_007249.4 | 0.694174037 |
| CDR2L | NM\_014603.1 | 0.691743337 |
| TIPIN | NM\_017858.1 | -0.691653487 |
| CFD | NM\_001928.2 | 0.690555215 |
| RFC2 | NM\_181471.1 | -0.689877528 |
| FTHL12 | NR\_002205.1 | 0.689573183 |
| MOAP1 | NM\_022151.4 | 0.686746952 |
| KIFC2 | NM\_145754.2 | 0.685649227 |
| FAM89A | NM\_198552.1 | 0.685606807 |
| XYLT1 | NM\_022166.3 | 0.685480593 |
| RET | NM\_020630.4 | -0.684257621 |
| FTHL2 | NR\_002200.1 | 0.682539387 |
| C5orf41 | NM\_153607.1 | 0.682279717 |
| LOC729843 | XR\_016056.1 | 0.682173146 |
| TMEM48 | NM\_018087.3 | -0.681631469 |
| KIAA0355 | NM\_014686.3 | 0.680904277 |
| POLR3G | NM\_006467.2 | -0.680346596 |
| FAM176B | NM\_018166.1 | 0.680203808 |
| GOLGA8B | NM\_001023567.2 | 0.679706172 |
| SPSB3 | NM\_080861.3 | 0.6772486 |
| PDE4B | NM\_002600.3 | -0.676925141 |
| ATP9A | NM\_006045.1 | -0.676837733 |
| SYNGR1 | NM\_004711.3 | -0.676686047 |
| OSTalpha | NM\_152672.4 | -0.675509103 |
| KIAA1602 | NM\_020941.1 | 0.675010441 |
| DDAH2 | NM\_013974.1 | 0.674953842 |
| TNFAIP8 | NM\_001077654.1 | -0.674662204 |
| IGLL1 | NM\_020070.2 | -0.674187524 |
| LOC100128291 | XR\_039099.1 | -0.673925454 |
| PSCD1 | NM\_017456.1 | 0.672916405 |
| BCL6 | NM\_001706.2 | 0.670887872 |
| FTHL11 | NR\_002204.1 | 0.670263229 |
| TRIM8 | NM\_030912.2 | 0.669794276 |
| HSPD1 | NM\_002156.4 | -0.669694607 |
| TRIP13 | NM\_004237.2 | -0.66856334 |
| SLC7A5 | NM\_003486.5 | -0.666822405 |
| ECM1 | NM\_022664.1 | -0.666818915 |
| CEBPE | NM\_001805.2 | -0.665448617 |
| LOC730167 | XM\_001726158.1 | -0.664750249 |
| MT1G | NM\_005950.1 | -0.664688101 |
| P2RX1 | NM\_002558.2 | 0.663092985 |
| BNIP3L | NM\_004331.2 | 0.66282058 |
| HIST1H2BD | NM\_138720.1 | 0.661919954 |
| AKNA | NM\_030767.3 | 0.659628157 |
| CDO1 | NM\_001801.2 | 0.656206461 |
| PRKDC | NM\_006904.6 | -0.65620356 |
| CDKN2C | NM\_078626.2 | 0.655944952 |
| RRAS | NM\_006270.3 | 0.655916007 |
| CYTH1 | NM\_017456.2 | 0.655539202 |
|  | BX097705 | -0.655389778 |
| MRPL35 | NM\_145644.1 | -0.653997665 |
| TXNIP | NM\_006472.2 | 0.653424334 |
| GHDC | NM\_032484.3 | 0.653006313 |
| CORO1B | NM\_001018070.1 | 0.652516334 |
| PPP1R15A | NM\_014330.2 | 0.652091186 |
| CTSB | NM\_147780.2 | 0.651905251 |
| UBE1 | NM\_153280.1 | -0.651303867 |
| NTSR1 | NM\_002531.2 | -0.65071254 |
| MLKL | NM\_152649.1 | -0.650248547 |
| RANBP1 | NM\_002882.2 | -0.649999647 |
| STX5 | NM\_003164.3 | 0.649182523 |
| LYAR | NM\_017816.1 | -0.648106132 |
| CCND3 | NM\_001760.2 | 0.647916175 |
| CCDC58 | NM\_001017928.2 | -0.64726471 |
| TTLL3 | NM\_015644.3 | 0.644822356 |
| SNORD3D | NR\_006882.1 | 0.644508922 |
| MFSD6 | NM\_017694.3 | 0.642543707 |
| LOC100134144 | XM\_001717999.1 | 0.642472057 |
| GAPT | NM\_152687.2 | -0.641792835 |
| LMO2 | NM\_005574.2 | -0.641576633 |
| ADCY6 | NM\_020983.2 | 0.641492433 |
| C9orf103 | NM\_001001551.1 | 0.639404177 |
| RN5S9 | NR\_023371.1 | 0.638596481 |
| HOMER2 | NM\_199332.2 | -0.638269318 |
| SLC25A19 | NM\_021734.3 | -0.6381119 |
| ECM1 | NM\_004425.2 | -0.638015907 |
| DNAJB2 | NM\_006736.5 | 0.63765721 |
| AXUD1 | NM\_033027.2 | 0.636833989 |
| DBN1 | NM\_004395.2 | 0.636620656 |
| TNFRSF6B | NM\_032945.2 | 0.636470315 |
| LOC643870 | XM\_927140.1 | 0.63623206 |
| SRGN | NM\_002727.2 | -0.635497918 |
| LTA4H | NM\_000895.1 | 0.635176309 |
| LAIR2 | NM\_021270.2 | -0.634719989 |
| BIK | NM\_001197.3 | -0.63449453 |
| RASGRP2 | NM\_005825.2 | -0.633425058 |
| SYT11 | NM\_152280.2 | 0.633056298 |
| FAM43A | NM\_153690.4 | 0.632231485 |
| CTDSP2 | NM\_005730.3 | 0.631752015 |
| ZNF581 | NM\_016535.3 | 0.631005189 |
| CACNB3 | NM\_000725.2 | 0.629865677 |
| P2RY5 | NM\_005767.4 | 0.629641289 |
|  | BX641108 | 0.628565042 |
| LRRC17 | NM\_005824.1 | -0.628457473 |
| LOC85390 | NR\_001454.1 | -0.628300935 |
| CD68 | NM\_001251.1 | -0.627528383 |
| ZNF211 | NM\_006385.2 | 0.627481848 |
| S100A4 | NM\_019554.2 | 0.627175686 |
| PPM1G | NM\_177983.1 | -0.62456829 |
| SC4MOL | NM\_006745.3 | -0.624455616 |
| MS4A7 | NM\_206938.1 | -0.623637243 |
| PTGER2 | NM\_000956.2 | -0.622068997 |
| TUG1 | NR\_002323.1 | 0.621592305 |
| TSPAN9 | NM\_006675.3 | 0.620161447 |
| C2orf65 | NM\_138804.3 | -0.619464591 |
| ICAM3 | NM\_002162.2 | 0.61939787 |
| PTMS | NM\_002824.4 | 0.619301501 |
| ZMIZ1 | NM\_020338.2 | 0.618878221 |
| MLKL | XM\_001126647.1 | -0.61866213 |
| MYO1G | NM\_033054.1 | 0.617504858 |
| FAM89A | XM\_939093.1 | 0.617246513 |
| GART | NM\_175085.1 | -0.61661938 |
| HOMER2 | NM\_199331.2 | -0.616447403 |
| MNDA | NM\_002432.1 | -0.616388269 |
| MGEA5 | NM\_012215.2 | 0.615816839 |
| LRMP | NM\_006152.2 | -0.615757849 |
| ASMTL | XM\_942506.1 | 0.614244868 |
| MTSS1 | NM\_014751.4 | 0.613367328 |
| PHF17 | NM\_024900.3 | -0.613235638 |
| TUFT1 | NM\_020127.1 | 0.612393134 |
| NFKBIE | NM\_004556.2 | -0.61212368 |
| RHOC | NM\_175744.4 | 0.611937489 |
| RCOR3 | NM\_018254.2 | 0.610821781 |
| ASS1 | NM\_000050.4 | -0.609848981 |
| TGFBR2 | NM\_001024847.2 | 0.609692395 |
| BRI3BP | NM\_080626.5 | -0.609568246 |
| PDE4D | NM\_006203.3 | -0.609471243 |
| ANKDD1A | NM\_182703.3 | 0.608932951 |
| LRCH4 | NM\_002319.2 | 0.608665413 |
| INSIG1 | NM\_198336.1 | -0.608446056 |
| CNFN | NM\_032488.2 | 0.607397975 |
| BRI3BP | NM\_080626.5 | -0.606384615 |
| ATP5G1 | NM\_005175.2 | -0.606358576 |
| LOC728047 | XM\_001126912.1 | -0.606015376 |
| ARSD | NM\_001669.2 | 0.605826016 |
| MFSD6 | NM\_017694.3 | 0.604045483 |
| RPL37 | NM\_000997.3 | 0.604005073 |
| CDC25A | NM\_001789.2 | -0.603948054 |
| SHANK3 | NM\_001080420.1 | 0.603667952 |
| LOC727761 | XM\_001126211.1 | -0.603332553 |
| MMP28 | NM\_001032278.1 | 0.603221248 |
| GATA2 | NM\_032638.3 | 0.60315307 |
| ELOVL6 | NM\_024090.1 | -0.601851932 |
| CROP | NM\_016424.3 | 0.601134848 |
| LOC791120 | NR\_015357.1 | 0.601015752 |
| SLC38A5 | NM\_033518.1 | -0.600923909 |
| BAZ2B | NM\_013450.2 | 0.600864634 |
| LYAR | NM\_017816.1 | -0.600640929 |
| PHACTR1 | NM\_030948.1 | -0.599881581 |
| NMB | NM\_021077.3 | -0.599807393 |
| PKD2 | NM\_000297.2 | 0.599096317 |
| TOR3A | NM\_022371.3 | -0.598939175 |
| RNU4-1 | NR\_003925.1 | 0.598803729 |
| LOC100130892 | XM\_001720172.1 | 0.598800657 |
| LRRC17 | NM\_001031692.1 | -0.598235129 |
| LOC653344 | XM\_933085.1 | 0.598008851 |
| ABCB1 | NM\_000927.3 | 0.597637727 |
| TSPYL3 | XR\_001421.1 | 0.597611318 |
| FAM89B | NM\_001098784.1 | 0.597217488 |
|  | AK092074 | 0.597188448 |
| CEBPD | NM\_005195.3 | -0.596688203 |
| TPRG1L | NM\_182752.3 | 0.596467979 |
| NPC2 | NM\_006432.3 | 0.59639002 |
| LGSN | NM\_016571.1 | 0.596251234 |
| LOC644914 | XM\_930111.2 | 0.59622382 |
| ERO1L | NM\_014584.1 | -0.595578478 |
| CCDC24 | NM\_152499.1 | 0.595513371 |
| PRIM2A | XM\_001134299.1 | -0.594758774 |
| NCRNA00219 | NR\_015370.1 | 0.594001793 |
| HCST | NM\_001007469.1 | 0.593612238 |
| LPIN1 | NM\_145693.1 | 0.593567028 |
| BHLHB2 | NM\_003670.1 | 0.59334335 |
| ZWILCH | NM\_017975.3 | -0.592021701 |
| RRS1 | NM\_015169.3 | -0.591416436 |
| ZNF326 | NM\_182976.1 | -0.591339579 |
| C5orf41 | NM\_153607.1 | 0.590530783 |
| LOC644162 | XM\_933956.1 | -0.590046944 |
| LSM12 | NM\_152344.2 | -0.58963917 |
| GTF2H3 | NM\_001516.3 | -0.588718397 |
| C14orf179 | NM\_052873.1 | 0.587394635 |
| COL4A5 | NM\_000495.3 | 0.587210266 |
| OSBPL2 | NM\_144498.1 | 0.586381288 |
| CAST | NM\_001042442.1 | 0.586223935 |
| B3GNTL1 | NM\_001009905.1 | -0.586183713 |
| SLC38A10 | NM\_138570.2 | -0.586011882 |

**Supplemental Table 7:** Significantly regulated genes by exposure to I-CBP112 in MOLM-13 cells after a 4 day exposure.

|  |  |  |
| --- | --- | --- |
| **SYMBOL** | **ACCESSION** | **logFC** |
| PRG2 | NM\_002728.4 | -1.639232194 |
| MS4A3 | NM\_006138.4 | -1.47321975 |
| IL8 | NM\_000584.2 | -1.396195453 |
| CACNA2D3 | NM\_018398.2 | -1.344117221 |
| MPO | NM\_000250.1 | -1.327633118 |
| MS4A3 | NM\_006138.4 | -1.297766477 |
| AIF1 | NM\_032955.1 | -1.295411069 |
| CST7 | NM\_003650.2 | -1.285628397 |
| RNASE3 | NM\_002935.2 | -1.262303279 |
| CTSG | NM\_001911.2 | -1.261036568 |
| CHI3L1 | NM\_001276.2 | -1.217610872 |
| SERPINB10 | NM\_005024.1 | -1.131353157 |
| CUX2 | NM\_015267.2 | -1.118701772 |
| NFE2 | NM\_006163.1 | -1.109079544 |
| LOC643332 | XR\_016287.1 | -1.09412978 |
| FCGR1A | NM\_000566.2 | -1.089914598 |
| RNASE2 | NM\_002934.2 | -1.074627798 |
| C5orf20 | NM\_130848.2 | -1.032472915 |
| EGR1 | NM\_001964.2 | 1.011502202 |
| MS4A6A | NM\_152851.1 | -1.002900864 |
| RGS18 | NM\_130782.2 | -1.002391126 |
| S100A8 | NM\_002964.3 | -1.001889746 |
| AIF1 | NM\_001623.3 | -0.993513043 |
| S100A9 | NM\_002965.2 | -0.972289041 |
| CFC1B | NM\_001079530.1 | -0.957997689 |
| FGR | NM\_001042729.1 | -0.955300402 |
| IL8 | NM\_000584.2 | -0.949369292 |
| C19orf59 | NM\_174918.2 | -0.946978511 |
| SPNS3 | NM\_182538.3 | -0.944210941 |
| CCR2 | NM\_000647.3 | -0.941974527 |
| LOC730517 | XM\_001126166.1 | -0.938078431 |
| CORO2A | NM\_003389.2 | -0.927753323 |
| SNORA12 | NR\_002954.1 | 0.923431985 |
| PRSSL1 | NM\_214710.2 | -0.90604267 |
| ARHGAP5 | NM\_001173.2 | -0.885604357 |
| MS4A6A | NM\_022349.2 | -0.866908432 |
| CD36 | NM\_000072.2 | -0.853740183 |
| ORM1 | NM\_000607.1 | -0.853486456 |
| LILRA2 | NM\_006866.1 | -0.849052167 |
| RAB7B | NM\_177403.3 | -0.848573119 |
| CCR2 | NM\_000647.4 | -0.84591215 |
| CSF3R | NM\_172313.1 | -0.84467196 |
| SERPINB2 | NM\_002575.1 | -0.833119858 |
| PECAM1 | NM\_000442.3 | -0.831750476 |
| SERPINB2 | NM\_002575.1 | -0.830261994 |
| MLC1 | NM\_015166.3 | -0.829717972 |
| FCGR1B | NM\_001017986.1 | -0.824932499 |
| BPI | NM\_001725.1 | -0.824047912 |
| CCL3L1 | NM\_021006.4 | -0.82157174 |
| CD52 | NM\_001803.2 | -0.813481394 |
| TNFSF13B | NM\_006573.3 | -0.812783834 |
| THBS4 | NM\_003248.3 | -0.810154773 |
| HLA-DRA | NM\_019111.3 | -0.792283023 |
| SCARNA14 | NR\_004388.1 | 0.778835793 |
| MNDA | NM\_002432.1 | -0.778103696 |
| TIFAB | NM\_001099221.1 | -0.769664747 |
| CCR2 | NM\_000648.2 | -0.769503313 |
| TSPAN32 | NM\_005705.4 | -0.768712406 |
| SERPINB8 | NM\_002640.3 | -0.767695904 |
| FCGR1B | NM\_001004340.1 | -0.753559572 |
| MS4A4A | NM\_148975.1 | -0.752748701 |
| ASMTL | XM\_942506.1 | 0.747425804 |
| SCARNA13 | NR\_003002.1 | 0.746507053 |
| RN5S9 | NR\_023371.1 | 0.742090357 |
| CXCR4 | NM\_001008540.1 | -0.740410413 |
| FCER2 | NM\_002002.3 | -0.724726185 |
| IFI6 | NM\_022873.2 | 0.721309592 |
| ARHGEF10 | NM\_014629.2 | -0.719462384 |
| LST1 | NM\_007161.2 | -0.717548735 |
| CPVL | NM\_019029.2 | 0.714203485 |
| TBC1D10C | NM\_198517.2 | -0.711969457 |
| C13orf18 | NM\_025113.1 | -0.707352932 |
| SNORD31 | NR\_002560.1 | 0.705285853 |
| TMEM45A | NM\_018004.1 | -0.704596247 |
| TRAPPC6A | NM\_024108.1 | 0.703279731 |
| CSPG4 | NM\_001897.4 | -0.701991311 |
| PRDM8 | NM\_020226.3 | -0.699029818 |
| TGM5 | NM\_004245.2 | -0.696730621 |
| CD36 | NM\_001001548.1 | -0.694044215 |
| S1PR3 | NM\_005226.2 | -0.685589366 |
| FCGR1C | NM\_001128589.1 | -0.675616436 |
| CYFIP2 | NM\_014376.2 | 0.671141626 |
| ATP6V1C2 | NM\_144583.3 | -0.669259049 |
| TMEM14A | NM\_014051.3 | 0.667309603 |
| MS4A6A | NM\_152851.1 | -0.663502021 |
| PNOC | NM\_006228.3 | -0.663144916 |
| SNORA57 | NR\_004390.1 | 0.660109179 |
| GPR18 | NM\_001098200.1 | -0.659289432 |
| LY96 | NM\_015364.2 | 0.658397331 |
| RARRES3 | NM\_004585.3 | 0.656919611 |
| IDI1 | NM\_004508.2 | -0.656310383 |
|  | AY129027 | -0.6537868 |
| 37134 | NM\_002688.4 | -0.650478319 |
| DHRS9 | NM\_005771.3 | -0.645904872 |
| FTHL7 | NR\_002202.2 | 0.645039294 |
|  | BX093329 | -0.638482928 |
| PTPN22 | NM\_015967.3 | -0.638457746 |
| NANOS1 | NM\_001009553.1 | -0.636033874 |
| SNX10 | NM\_013322.2 | -0.635840359 |
| DYSF | NM\_003494.2 | -0.635214108 |
| SCARNA8 | NR\_003009.1 | 0.635192062 |
| SYTL1 | NM\_032872.1 | -0.628275589 |
| PSAP | NM\_001042465.1 | 0.626516856 |
| BASP1 | NM\_006317.3 | -0.624755931 |
| LOC100134379 | XM\_001720508.1 | -0.623016327 |
| TGM5 | NM\_201631.2 | -0.621688195 |
| SERPINB8 | NM\_198833.1 | -0.621530316 |
| CLCF1 | NM\_013246.2 | -0.616351318 |
| TNFSF13B | NM\_006573.3 | -0.615822026 |
| FCER1G | NM\_004106.1 | -0.613515389 |
| RASGRP2 | NM\_005825.2 | -0.612685259 |
| PLAC8 | NM\_016619.1 | -0.612598797 |
| C13orf18 | NM\_025113.1 | -0.611826776 |
| GPR84 | NM\_020370.1 | -0.610399762 |
| LOC100134648 | XM\_001724681.1 | 0.608430501 |
| SQRDL | NM\_021199.2 | -0.606590774 |
| SLC22A4 | NM\_003059.2 | -0.606522551 |
| IGLL1 | NM\_020070.2 | -0.606142732 |
| MLKL | NM\_152649.1 | -0.605608678 |
| WNT7B | NM\_058238.1 | -0.605008071 |
| PSTPIP1 | NM\_003978.2 | -0.604192959 |
| CCL3L3 | NM\_001001437.3 | -0.595676743 |
| SHISA2 | NM\_001007538.1 | -0.59528192 |
| METTL7B | NM\_152637.1 | -0.594434951 |
| C3orf54 | NM\_203370.1 | -0.591699864 |
| CAT | NM\_001752.2 | -0.589083482 |
| INSIG1 | NM\_198336.1 | -0.586611857 |
| CHST13 | NM\_152889.1 | -0.586012155 |
| PLD3 | NM\_001031696.1 | 0.585269752 |

**Supplemental Table 8:** Significantly regulated genes by exposure to I-CBP112 in SEM cells after a 4 day exposure.

|  |  |  |
| --- | --- | --- |
| **SYMBOL** | **ACCESSION** | **logFC** |
| LOC100008589 | NR\_003287.1 | 2.444459698 |
| LOC100132394 | XM\_001713809.1 | 2.318606627 |
| LOC100008589 | NR\_003287.1 | 2.310711627 |
| LOC100134364 | XM\_001713810.1 | 2.063037994 |
| LOC100133565 | XM\_001724542.1 | 1.990136006 |
| CSF1R | NM\_005211.2 | -1.985680186 |
| ADAMTSL2 | NM\_014694.2 | 1.902519787 |
| LOC441763 | XM\_930284.1 | 1.887924452 |
| SLC7A7 | NM\_003982.2 | -1.842173109 |
| ID2 | NM\_002166.4 | 1.730565243 |
| ID2 | NM\_002166.4 | 1.637947926 |
| MGC33556 | NM\_001004307.1 | -1.63673205 |
| SMAD7 | NM\_005904.2 | 1.63331177 |
| VENTX | NM\_014468.2 | -1.566521159 |
| HSPB7 | NM\_014424.3 | -1.525703903 |
| SNORA12 | NR\_002954.1 | 1.519383144 |
| CST7 | NM\_003650.2 | -1.512389163 |
| CSPG4 | NM\_001897.4 | -1.505235008 |
| NFE2 | NM\_006163.1 | -1.471124194 |
| BMF | NM\_033503.3 | 1.432866046 |
| PDGFRB | NM\_002609.3 | -1.401235528 |
| PRSSL1 | NM\_214710.2 | -1.331933325 |
| TMEM119 | NM\_181724.1 | 1.305513996 |
| IL21R | NM\_181078.1 | -1.299587543 |
| SCD | NM\_005063.4 | -1.297479005 |
| ADA | NM\_000022.2 | -1.28400768 |
| ANXA2 | NM\_001002857.1 | -1.279952046 |
| CD72 | NM\_001782.1 | -1.278144098 |
| NELL2 | NM\_006159.1 | 1.27783016 |
| MIR1978 | NR\_031742.1 | -1.270179683 |
| SMAD7 | NM\_005904.2 | 1.260744223 |
| SCARNA13 | NR\_003002.1 | 1.259635487 |
| CD52 | NM\_001803.2 | -1.252455896 |
| ISG20 | NM\_002201.4 | -1.247740807 |
| CYSLTR1 | NM\_006639.2 | -1.245432152 |
| IFITM1 | NM\_003641.3 | -1.232095307 |
| LCN6 | NM\_198946.2 | -1.231159153 |
| SLC43A2 | NM\_152346.1 | 1.228705384 |
| C17orf87 | NM\_207103.1 | -1.226024261 |
| LRIG1 | NM\_015541.2 | 1.207224498 |
| RGS2 | NM\_002923.1 | -1.206134551 |
| BMF | NM\_001003943.1 | 1.203282656 |
| ECM1 | NM\_022664.1 | -1.192197833 |
| NQO1 | NM\_000903.2 | 1.18281644 |
| FOS | NM\_005252.2 | -1.17586733 |
| BAMBI | NM\_012342.2 | 1.164360057 |
| MXD4 | NM\_006454.2 | 1.160080602 |
| ACAD11 | NM\_032169.4 | -1.14365653 |
| HLA-DRB4 | NM\_021983.4 | -1.139998934 |
| EGR1 | NM\_001964.2 | -1.137059502 |
| AK3L1 | NM\_013410.2 | -1.120208128 |
| TLE4 | NM\_007005.3 | 1.119221832 |
| LILRA2 | NM\_006866.1 | -1.115064082 |
| CA2 | NM\_000067.1 | -1.108890281 |
| PLEK | NM\_002664.1 | -1.107076323 |
| CYP1A1 | NM\_000499.2 | 1.107044348 |
| PGAM1 | NM\_002629.2 | -1.097093724 |
| LRIG1 | NM\_015541.2 | 1.09512074 |
| DAAM1 | NM\_014992.1 | 1.093623976 |
| SREBF1 | NM\_001005291.1 | -1.093074921 |
|  | AK026966 | -1.088680791 |
| GP9 | NM\_000174.2 | -1.087262843 |
| NLGN4X | NM\_020742.2 | -1.085104953 |
| REEP1 | NM\_022912.1 | 1.066683035 |
| C17orf87 | NM\_207103.2 | -1.065368685 |
| CCL5 | NM\_002985.2 | -1.053819584 |
| NPW | NM\_001099456.2 | -1.052619524 |
| SLC15A3 | NM\_016582.1 | -1.051897951 |
| EVL | NM\_016337.2 | -1.05121774 |
| NKG7 | NM\_005601.3 | -1.047671857 |
| CTNNBL1 | NM\_030877.3 | -1.033308027 |
| FAM69B | XM\_001130258.1 | -1.033251279 |
| VWA5A | NM\_014622.4 | 1.026270141 |
| SORBS2 | NM\_003603.4 | 1.024122526 |
| HSH2D | NM\_032855.2 | -1.007776123 |
| CHN2 | NM\_004067.2 | 1.007047038 |
| LOC728188 | XM\_001126103.2 | -1.004808883 |
| DDN | NM\_015086.1 | -1.004787523 |
| SNORD13 | NR\_003041.1 | 0.99059668 |
| APOBEC3G | NM\_021822.1 | -0.988783363 |
| CACNA2D4 | NM\_172364.4 | -0.981774933 |
| RFTN1 | NM\_015150.1 | 0.981498214 |
| TLE4 | NM\_007005.3 | 0.971960662 |
| ARSD | NM\_001669.2 | 0.971143967 |
| ADARB1 | NM\_001112.2 | 0.970185563 |
| HOPX | NM\_139212.2 | 0.969015484 |
| LIMS2 | NM\_017980.3 | -0.968395228 |
| RGL1 | NM\_015149.3 | 0.965748132 |
| S100A13 | NM\_001024211.1 | -0.96570075 |
| KAZALD1 | NM\_030929.3 | -0.959295913 |
| SLC16A3 | NM\_004207.2 | -0.958353187 |
| CARD9 | NM\_052813.3 | -0.950676565 |
| RUNX2 | NM\_001024630.2 | 0.949879104 |
| AK3L1 | NM\_203464.1 | -0.948593208 |
| CTSO | NM\_001334.2 | 0.944958519 |
| LOC387841 | XM\_932678.1 | -0.941383181 |
| ANPEP | NM\_001150.1 | 0.940240348 |
| SLA | NM\_006748.1 | -0.933212782 |
| MCOLN2 | NM\_153259.2 | -0.92582889 |
| SH3BP4 | NM\_014521.2 | 0.922806371 |
| ACACA | NM\_198839.1 | -0.915553918 |
| CLEC11A | NM\_002975.2 | -0.912467558 |
| TBC1D10C | NM\_198517.2 | -0.911651062 |
| ANGPT1 | NM\_001146.3 | -0.908733882 |
| LOC643384 | XR\_016363.2 | -0.906382262 |
| CCDC81 | NM\_021827.3 | -0.905115396 |
| SPIRE1 | NM\_020148.2 | 0.900306925 |
| CYTH1 | NM\_017456.2 | 0.899583409 |
| SORBS2 | NM\_003603.4 | 0.898761626 |
| CTNNA1 | NM\_001903.2 | 0.898648128 |
| HNRPLL | NM\_138394.2 | 0.898274719 |
| UNC93B1 | NM\_030930.2 | -0.898201169 |
| CA2 | NM\_000067.1 | -0.89534568 |
| SORD | XM\_001132175.1 | -0.893251578 |
| ABLIM1 | NM\_006720.3 | 0.890419807 |
| MYO10 | NM\_012334.1 | 0.889352737 |
| SLC22A16 | NM\_033125.2 | -0.886518474 |
| GPM6B | NM\_001001995.1 | -0.885789177 |
| CRMP1 | NM\_001014809.1 | 0.884390825 |
| EFNB2 | NM\_004093.2 | 0.884331445 |
| IRAK2 | NM\_001570.3 | -0.882557916 |
| FADS1 | NM\_013402.3 | -0.881501449 |
| MPPE1 | NM\_023075.4 | 0.880816171 |
| CD86 | NM\_006889.3 | -0.880811133 |
| CCL5 | NM\_002985.2 | -0.879251206 |
| C19orf59 | NM\_174918.2 | -0.87427298 |
| ITPRIPL2 | NM\_001034841.2 | -0.870008173 |
| TCF7 | NM\_213648.1 | 0.866048729 |
| DHCR7 | NM\_001360.1 | -0.865962211 |
| FAM65B | NM\_015864.2 | -0.862169363 |
| TCF7 | NM\_201632.1 | 0.861658995 |
| GPM6B | NM\_001001995.1 | -0.861527561 |
| GNB4 | NM\_021629.2 | -0.861055954 |
| PRICKLE1 | NM\_153026.1 | -0.860069071 |
| KCNK3 | NM\_002246.1 | 0.85800232 |
| GREM1 | NM\_013372.5 | 0.854828333 |
| RPS6KA2 | NM\_001006932.1 | 0.854536594 |
| RAPGEF2 | NM\_014247.2 | 0.853714263 |
|  | AF131834 | 0.853567135 |
| RN7SK | NR\_001445.1 | 0.850423205 |
| KLHL24 | NM\_017644.3 | 0.850310568 |
| CD79B | NM\_000626.1 | -0.850076641 |
| TPMT | NM\_000367.2 | 0.847480228 |
| PKDCC | NM\_138370.2 | -0.846514463 |
| TP53INP1 | NM\_033285.2 | 0.84550346 |
| NRCAM | NM\_005010.3 | 0.839689695 |
| SYTL2 | NM\_206929.1 | 0.838653717 |
| S100A13 | NM\_001024211.1 | -0.83706123 |
| CDKN1A | NM\_000389.2 | -0.836309224 |
| PSCD1 | NM\_017456.1 | 0.834015203 |
| S100A13 | NM\_001024212.1 | -0.832242313 |
| PLAUR | NM\_001005376.1 | -0.831926161 |
| SNORD12C | NR\_002433.1 | -0.831206099 |
| FASN | NM\_004104.4 | -0.830498859 |
| C1orf63 | NM\_020317.3 | 0.826372736 |
| CORO1A | NM\_007074.2 | -0.82591161 |
| LOC649143 | XM\_944822.1 | -0.825680121 |
| HLA-DRB6 | NR\_001298.1 | -0.823764332 |
| FSCN1 | NM\_003088.2 | -0.823182387 |
| CCDC106 | NM\_013301.2 | -0.822315318 |
| CEBPB | NM\_005194.2 | 0.821110697 |
| GNB4 | NM\_021629.3 | -0.819776351 |
| MFI2 | NM\_033316.2 | 0.818571438 |
| CD93 | NM\_012072.3 | -0.816159575 |
| EMILIN1 | NM\_007046.1 | -0.813510621 |
| RASGRP3 | NM\_170672.1 | 0.811159888 |
| LOC100132564 | XM\_001713808.1 | 0.81094413 |
| CHI3L2 | NM\_004000.2 | -0.807882681 |
| MYH9 | NM\_002473.3 | 0.807819307 |
| CCND3 | NM\_001760.2 | -0.807598849 |
| MACROD1 | NM\_014067.2 | -0.80702333 |
| HSZFP36 | NM\_001080493.1 | 0.806301402 |
| INSIG1 | NM\_198336.1 | -0.805443491 |
| ACACA | NM\_198836.1 | -0.803813867 |
| DSTN | NM\_001011546.1 | 0.803560296 |
| TMEM158 | NM\_015444.2 | 0.802197413 |
| NMT2 | NM\_004808.1 | 0.799218365 |
| C17orf60 | NM\_001085423.1 | -0.798368058 |
| PSD2 | NM\_032289.2 | 0.796925959 |
| TNFSF13B | NM\_006573.3 | -0.795673942 |
| INSIG1 | NM\_198336.1 | -0.794985025 |
| RERE | NM\_001042682.1 | 0.792276266 |
| KCNS3 | NM\_002252.3 | 0.790742178 |
| ANXA2 | NM\_001002858.1 | -0.789939269 |
| CKAP2 | NM\_018204.2 | 0.788627091 |
| C17orf53 | NM\_024032.2 | -0.785977439 |
| DHRS3 | NM\_004753.4 | -0.785922885 |
| RAB8A | NM\_005370.4 | -0.784060143 |
| CD79B | NM\_001039933.1 | -0.781067398 |
| MLL5 | NM\_018682.3 | 0.77969212 |
| IFITM2 | NM\_006435.2 | -0.77933967 |
| TP53INP1 | NM\_033285.2 | 0.775735014 |
| ORC6L | NM\_014321.2 | -0.775294049 |
| DHCR7 | NM\_001360.2 | -0.774882646 |
| NME1 | NM\_000269.2 | -0.77414241 |
| ARHGEF3 | NM\_019555.1 | 0.773258218 |
| CRIP2 | NM\_001312.2 | 0.772792745 |
| PLAUR | NM\_001005376.1 | -0.772070605 |
| BATF3 | NM\_018664.1 | -0.771561379 |
| XYLT1 | NM\_022166.3 | 0.768200247 |
| SLAMF1 | NM\_003037.1 | 0.768193908 |
| CCNA1 | NM\_003914.2 | -0.765017913 |
| LOC730415 | XM\_001720835.1 | -0.764130725 |
| WDR19 | NM\_025132.3 | 0.763971117 |
| BASP1 | NM\_006317.3 | 0.762283331 |
| C7orf41 | NM\_152793.2 | 0.762046698 |
| NLGN4X | NM\_020742.2 | -0.760206794 |
| TSC22D1 | NM\_006022.2 | 0.760161323 |
| ARHGAP30 | NM\_181720.2 | -0.758455574 |
| ORC1L | NM\_004153.2 | -0.753760954 |
| SNORA64 | NR\_002326.1 | -0.751872187 |
| SRGN | NM\_002727.2 | -0.751278386 |
| RALGAPA1 | NM\_194301.2 | 0.749416514 |
| PACS1 | NM\_018026.2 | 0.748461229 |
| ABCB6 | NM\_005689.1 | 0.74727924 |
| RASD2 | NM\_014310.3 | -0.746399733 |
| AKR1C3 | NM\_003739.4 | 0.745651589 |
| P2RY11 | NM\_002566.4 | -0.745464666 |
| DPAGT1 | NM\_001382.2 | -0.744598043 |
| PELI2 | NM\_021255.2 | 0.744449396 |
| TAGLN2 | NM\_003564.1 | -0.7425604 |
| THOC4 | NM\_005782.2 | -0.742357178 |
| ABHD4 | NM\_022060.2 | -0.741618223 |
| GNA15 | NM\_002068.1 | -0.741519715 |
| LOC653994 | XM\_944429.1 | -0.740046121 |
| LONRF1 | NM\_152271.3 | -0.739563349 |
| DNAJB2 | NM\_006736.5 | 0.73891344 |
| LOC283340 | XM\_932919.1 | -0.73719782 |
|  | AK091337 | 0.736178708 |
| MT1F | NM\_005949.2 | 0.734524054 |
| SPI1 | NM\_001080547.1 | -0.733382841 |
| PRPH | NM\_006262.3 | 0.73233737 |
| PTPN7 | NM\_080588.1 | -0.732276344 |
| GABARAPL1 | NM\_031412.2 | 0.731455528 |
| TMEM184B | NM\_012264.3 | 0.730626486 |
| AIF1 | NM\_032955.1 | -0.727723146 |
| FOXO3 | NM\_201559.2 | 0.727459876 |
| SPSB1 | NM\_025106.2 | 0.727249395 |
|  | CR592039 | -0.726340753 |
| FAM81A | NM\_152450.2 | -0.726234273 |
| MYO6 | NM\_004999.3 | 0.725608325 |
| PER3 | NM\_016831.1 | -0.725275464 |
| SLC27A3 | NM\_024330.1 | -0.724281449 |
| ARHGEF7 | NM\_003899.2 | 0.722758858 |
| PLAC8 | NM\_016619.1 | -0.722430732 |
| DAAM1 | NM\_014992.1 | 0.720986722 |
| ATP6V0B | NM\_001039457.1 | -0.720863614 |
| MIR1228 | NR\_031597.1 | -0.71991893 |
| N4BP2 | NM\_018177.2 | 0.717874259 |
| WASPIP | NM\_003387.3 | -0.716850411 |
| PLXDC2 | NM\_032812.7 | -0.715873849 |
| CD9 | NM\_001769.2 | -0.713654668 |
| FAM89B | NM\_001098784.1 | 0.71349931 |
| SREBF1 | NM\_004176.3 | -0.713134511 |
| FADS2 | NM\_004265.2 | -0.712844496 |
| CCDC46 | NM\_145036.2 | 0.712773073 |
| ICAM2 | NM\_001099786.1 | -0.712426759 |
| PFN2 | NM\_053024.2 | 0.711844445 |
| ANGPTL2 | NM\_012098.2 | -0.709989181 |
| TNFSF13B | NM\_006573.3 | -0.709680205 |
| CHES1 | NM\_005197.2 | 0.709176554 |
| FTHL12 | NR\_002205.1 | 0.708816999 |
| DTNA | NM\_001392.3 | -0.708414524 |
| MCM7 | NM\_005916.3 | -0.707842881 |
| FGFBP2 | NM\_031950.2 | 0.707193716 |
| EP400 | NM\_015409.3 | 0.705403807 |
| SPEN | NM\_015001.2 | 0.704464632 |
| SLC44A1 | NM\_080546.3 | 0.704169385 |
| PLEKHA1 | NM\_001001974.1 | 0.703853535 |
| WIPI1 | NM\_017983.4 | 0.703416801 |
| SNORA84 | NR\_003704.2 | -0.702967194 |
| HLA-DRB6 | NR\_001298.1 | -0.702334473 |
| IRF8 | NM\_002163.2 | -0.701635165 |
| LPAR5 | NM\_020400.4 | -0.700983852 |
| RERE | NM\_012102.3 | 0.699629987 |
| MEGF6 | NM\_001409.3 | -0.699164069 |
| NR4A2 | NM\_006186.2 | 0.698587739 |
| DKFZp761P0423 | XM\_291277.4 | -0.697975731 |
| APOBEC3G | NM\_021822.1 | -0.696939404 |
| CYTSA | NM\_015330.1 | 0.696089763 |
| ABR | NM\_001092.3 | 0.695731865 |
| BIRC2 | NM\_001166.3 | 0.694728775 |
| ANXA2P1 | NR\_001562.1 | -0.694703887 |
| LOC606724 | NR\_002454.2 | -0.694394455 |
| SNX7 | NM\_152238.1 | 0.693747011 |
| S100A4 | NM\_019554.2 | -0.693102104 |
| LOC100130458 | XM\_001716901.1 | 0.691620303 |
| RN7SK | NR\_001445.1 | 0.690301409 |
| IKZF1 | NM\_006060.3 | -0.689947242 |
| ACSL1 | NM\_001995.2 | 0.689773956 |
| PGAM1 | NM\_002629.2 | -0.688517646 |
|  | BC070337 | -0.685450515 |
| KIAA1267 | NM\_015443.2 | 0.685421104 |
| MRPL33 | NM\_145330.2 | -0.685155012 |
| SLC44A1 | NM\_080546.3 | 0.682603348 |
| HSPC111 | NM\_016391.3 | -0.68231748 |
| NBPF20 | NM\_001037675.1 | 0.681704163 |
| LOC200030 | NM\_183372.3 | 0.681457263 |
| UGT3A2 | NM\_174914.2 | -0.681293839 |
| PPM1M | NM\_144641.1 | -0.681267452 |
| SNORA6 | NR\_002325.1 | -0.680799166 |
| MYRIP | NM\_015460.2 | 0.680797942 |
| UHRF1 | NM\_013282.3 | -0.680666563 |
| SC4MOL | NM\_001017369.1 | -0.679834498 |
| UPP1 | NM\_003364.2 | 0.679441135 |
| C1orf63 | NM\_207035.1 | 0.679172853 |
| PRAGMIN | NM\_001080826.1 | -0.678817544 |
| KCNN4 | NM\_002250.2 | -0.678465652 |
| FCRLA | NM\_032738.3 | -0.678355953 |
| LY86 | NM\_004271.3 | -0.678141134 |
| BCOR | NM\_017745.4 | 0.677505994 |
| NOP16 | NM\_016391.4 | -0.676470351 |
| GRAMD4 | NM\_015124.2 | -0.675770436 |
| TSC22D1 | NM\_006022.2 | 0.675406222 |
| SLC7A3 | NM\_032803.4 | 0.674809903 |
| NRCAM | NM\_005010.3 | 0.674104604 |
| SC4MOL | NM\_006745.3 | -0.672643926 |
| SLITRK4 | NM\_173078.2 | -0.672543813 |
| GREM1 | NM\_013372.5 | 0.672368369 |
| LOC732007 | XR\_015684.1 | -0.672357074 |
| IL1RN | NM\_173843.1 | -0.672179882 |
| CRLF2 | XM\_001133960.1 | -0.671181222 |
| KCNMB1 | NM\_004137.2 | -0.66862687 |
| C11orf67 | NM\_024684.2 | 0.668543353 |
| RPL8 | NM\_033301.1 | -0.668538471 |
| FBXO32 | NM\_148177.1 | 0.666753111 |
| CSRP2 | NM\_001321.1 | 0.665099304 |
| RPL13 | NM\_033251.1 | -0.664996087 |
| BTG2 | NM\_006763.2 | 0.663564702 |
| NPAL3 | NM\_020448.3 | 0.663548569 |
| ZNF232 | NM\_014519.2 | -0.662934829 |
| SNORD36C | NR\_000016.1 | -0.661906138 |
| MRPL33 | NM\_004891.2 | -0.661887392 |
| RYBP | NM\_012234.4 | 0.661408682 |
| CD33 | NM\_001772.3 | -0.660964461 |
| CD70 | NM\_001252.3 | -0.660833443 |
| THOC4 | XM\_001134346.1 | -0.660795321 |
| CTNNA1 | NM\_001903.2 | 0.660382476 |
| ZNF443 | NM\_005815.2 | 0.660298437 |
| AFMID | NM\_001010982.2 | -0.659539886 |
| ATP2A3 | NM\_174955.1 | 0.659244172 |
| MPRIP | NM\_015134.2 | 0.658742528 |
| OPTN | NM\_001008213.1 | 0.65841584 |
| WASF3 | NM\_006646.4 | 0.657175649 |
| PPP2R5C | NM\_002719.2 | -0.65687046 |
| NMT2 | NM\_004808.2 | 0.656717521 |
| ADORA2B | NM\_000676.2 | -0.65594592 |
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