**Additional files**

Combination of G-CSF and AMD3100 improve the anti-inflammatory effect of mesenchymal stem cells on inducing M2 polarization of macrophages through NF-κB-IL1RA signaling pathway

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**Supplemental Table 1. PCR-ARRAY information**

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Description** | **GenBank** |
| Aimp1 | Aminoacyl tRNA synthetase complex-interacting multifunctional protein 1 | NM\_053757 |
| Bmp2 | Bone morphogenetic protein 2 | NM\_017178 |
| Ccl11 | Chemokine (C-C motif) ligand 11 | NM\_019205 |
| Ccl12 | Chemokine (C-C motif) ligand 12 | NM\_001105822 |
| Ccl17 | Chemokine (C-C motif) ligand 17 | NM\_057151 |
| Ccl19 | Chemokine (C-C motif) ligand 19 | NM\_001108661 |
| Ccl2 | Chemokine (C-C motif) ligand 2 | NM\_031530 |
| Ccl20 | Chemokine (C-C motif) ligand 20 | NM\_019233 |
| Ccl22 | Chemokine (C-C motif) ligand 22 | NM\_057203 |
| Ccl24 | Chemokine (C-C motif) ligand 24 | NM\_001013045 |
| Ccl3 | Chemokine (C-C motif) ligand 3 | NM\_013025 |
| Ccl4 | Chemokine (C-C motif) ligand 4 | NM\_053858 |
| Ccl5 | Chemokine (C-C motif) ligand 5 | NM\_031116 |
| Ccl6 | Chemokine (C-C motif) ligand 6 | NM\_001004202 |
| Ccl7 | Chemokine (C-C motif) ligand 7 | NM\_001007612 |
| Ccl9 | Chemokine (C-C motif) ligand 9 | NM\_001012357 |
| Ccr1 | Chemokine (C-C motif) receptor 1 | NM\_020542 |
| Ccr10 | Chemokine (C-C motif) receptor 10 | NM\_001108836 |
| Ccr2 | Chemokine (C-C motif) receptor 2 | NM\_021866 |
| Ccr3 | Chemokine (C-C motif) receptor 3 | NM\_053958 |
| Ccr4 | Chemokine (C-C motif) receptor 4 | NM\_133532 |
| Ccr5 | Chemokine (C-C motif) receptor 5 | NM\_053960 |
| Ccr6 | Chemokine (C-C motif) receptor 6 | NM\_001013145 |
| Ccr8 | Chemokine (C-C motif) receptor 8 | XM\_236704 |
| Cd40lg | CD40 ligand | NM\_053353 |
| Csf1 | Colony stimulating factor 1 (macrophage) | NM\_023981 |
| Csf2 | Colony stimulating factor 2 (granulocyte-macrophage) | XM\_340799 |
| Csf3 | Colony stimulating factor 3 (granulocyte) | NM\_017104 |
| Cx3cl1 | Chemokine (C-X3-C motif) ligand 1 | NM\_134455 |
| Cx3cr1 | Chemokine (C-X3-C motif) receptor 1 | NM\_133534 |
| Cxcl1 | Chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha) | NM\_030845 |
| Cxcl10 | Chemokine (C-X-C motif) ligand 10 | NM\_139089 |
| Cxcl11 | Chemokine (C-X-C motif) ligand 11 | NM\_182952 |
| Cxcl12 | Chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1) | NM\_022177 |
| Cxcl2 | Chemokine (C-X-C motif) ligand 2 | NM\_053647 |
| Cxcl5 | Chemokine (C-X-C motif) ligand 5 | NM\_022214 |
| Cxcl9 | Chemokine (C-X-C motif) ligand 9 | NM\_145672 |
| Cxcr2 | Chemokine (C-X-C motif) receptor 2 | NM\_017183 |
| Cxcr3 | Chemokine (C-X-C motif) receptor 3 | NM\_053415 |
| Cxcr5 | Chemokine (C-X-C motif) receptor 5 | NM\_053303 |
| Faslg | Fas ligand (TNF superfamily, member 6) | NM\_012908 |
| Ifng | Interferon gamma | NM\_138880 |
| Il10ra | Interleukin 10 receptor, alpha | NM\_057193 |
| Il11 | Interleukin 11 | NM\_133519 |
| Il13 | Interleukin 13 | NM\_053828 |
| Il15 | Interleukin 15 | NM\_013129 |
| Il16 | Interleukin 16 | NM\_001105749 |
| Il17a | Interleukin 17A | NM\_001106897 |
| Il17b | Interleukin 17B | NM\_053789 |
| Il17f | Interleukin 17F | NM\_001015011 |
| Il1a | Interleukin 1 alpha | NM\_017019 |
| Il1b | Interleukin 1 beta | NM\_031512 |
| Il1r1 | Interleukin 1 receptor, type I | NM\_013123 |
| Il1rn | Interleukin 1 receptor antagonist | NM\_022194 |
| Il21 | Interleukin 21 | NM\_001108943 |
| Il27 | Interleukin 27 | XM\_344962 |
| Il2rb | Interleukin 2 receptor, beta | NM\_013195 |
| Il2rg | Interleukin 2 receptor, gamma | NM\_080889 |
| Il3 | Interleukin 3 | NM\_031513 |
| Il33 | Interleukin 33 | NM\_001014166 |
| Il4 | Interleukin 4 | NM\_201270 |
| Il5 | Interleukin 5 | NM\_021834 |
| Il5ra | Interleukin 5 receptor, alpha | NM\_053645 |
| Il6r | Interleukin 6 receptor | NM\_017020 |
| Il6st | Interleukin 6 signal transducer | NM\_001008725 |
| Il7 | Interleukin 7 | NM\_013110 |
| Il8ra | Interleukin 8 receptor, alpha | NM\_019310 |
| Lta | Lymphotoxin alpha (TNF superfamily, member 1) | NM\_080769 |
| Ltb | Lymphotoxin beta (TNF superfamily, member 3) | NM\_212507 |
| Mif | Macrophage migration inhibitory factor | NM\_031051 |
| Nampt | Nicotinamide phosphoribosyltransferase | NM\_177928 |
| Osm | Oncostatin M | NM\_001006961 |
| Pf4 | Platelet factor 4 | NM\_001007729 |
| RGD1561905\_predicted | Complement component 5 | XM\_345342 |
| Spp1 | Secreted phosphoprotein 1 | NM\_012881 |
| Tnf | Tumor necrosis factor (TNF superfamily, member 2) | NM\_012675 |
| Tnfrsf11b | Tumor necrosis factor receptor superfamily, member 11b | NM\_012870 |
| Tnfsf10 | Tumor necrosis factor (ligand) superfamily, member 10 | NM\_145681 |
| Tnfsf11 | Tumor necrosis factor (ligand) superfamily, member 11 | NM\_057149 |
| Tnfsf13 | Tumor necrosis factor (ligand) superfamily, member 13 | NM\_001009623 |
| Tnfsf13b | Tumor necrosis factor (ligand) superfamily, member 13b | NM\_001109112 |
| Tnfsf14 | Tumor necrosis factor (ligand) superfamily, member 14 | XM\_236794 |
| Tnfsf4 | Tumor necrosis factor (ligand) superfamily, member 4 | NM\_053552 |
| Vegfa | Vascular endothelial growth factor A | NM\_031836 |
| Actb | Actin, beta | NM\_031144 |
| B2m | Beta-2 microglobulin | NM\_012512 |
|  |  |  |
|  |  |  |

Supplemental table 2. Primers for Real-Time PCR

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Gene* | *Primer sequence* | *Annealing temperature (*°*C)* | *Cycles* | *Size (bp)* |
| *IL-6* | *AGAGACTTCCAGCCAGTTGC* | *63* | *40* | *85* |
|  | *AGTCTCCTCTCCGGACTTGT* |  |  |  |
| *IL-10* | *GAAGCTGAAGACCCTCTGGATACA* | *60* | *40* | *117* |
|  | *CCTTTGTCTTGGAGCTTATTAAAATCA* |  |  |  |
| *IL1β* | *AATGACCTGTTCTTTGAGGCTGAC* | *60* | *40* | *115* |
|  | *CGAGATGCTGCTGTGAGATTTGAAG* |  |  |  |
| *CCL22* | *GGCAGGAAGGACCATACAAA* | *60* | *40* | *200* |
|  | *TCCAGAGGAGCAAGCAGATT* |  |  |  |
| *GAPDH* | *ATGCTGGTGCTGAGTATGTC* | *60* | *30* | *162* |
|  | *AGTTGTCATATTTCTCGTGG* |  |  |  |

**Supplemental Table 3. Primary antibodies used for Western blot**

|  |  |  |  |
| --- | --- | --- | --- |
| **Rat antigens** | **Poly/mono- clonal** | **Manufacturer** | **Dilution** |
| IL1RA | monoclonal | Abcam, US.  Cat. No: ab124962 | 1:1000 for Western blot(1:50 for FCM) |
| Phospho-P38 MAPK | polyclonal | Arigo biolaboratories Corp, Taiwan  Cat. No: ARG51850 | 1:1000 for Western blot |
| P38 MAPK | polyclonal | GeneTex, US  Cat. No: GTX110720 | 1:1000 for Western blot |
| Phospho-ERK1/2 | polyclonal | R&D systems , US  Cat. No: AF1018 | 1:1000 for Western blot |
| ERK1/2 | polyclonal | Proteintech ,US  Cat. No: 16443-1AP | 1:1000 for Western blot |
| Phospho-SAPK/JNK | polyclonal | Arigo biolaboratories Corp, Taiwan  Cat. No: ARG51807 | 1:1000 for Western blot |
| JNK | monoclonal | Abcam, US  Cat. No: ab179461 | 1:1000 for Western blot |
| Phospho-AKT | polyclonal | GeneTex, US  Cat. No: GTX128414 | 1:1000 for Western blot |
| AKT | polyclonal | GeneTex, US  Cat. No: GTX121937 | 1:500 for Western blot |
| Phospho-PKC | polyclonal | GeneTex, US  Cat. No: GTX130453 | 1:1000 for Western blot |
| PKC | polyclonal | GeneTex, US  Cat. No: GTX133936 | 1:1000 for Western blot |
| NF-κb p65 | polyclonal | GeneTex, US  Cat. No: GTX102090 | 1:1000 for Western blot |
| NF-κb p65  (phospho S536) | polyclonal | Abcam, US.  Cat. No: ab86299 | 1:1000 for Western blot |
| α-tubulin | monoclonal | Sigma-Aldrich, US  Cat. No: T6199 | 1:10000 for Western blot |