Supplementary Material

**Biotechnologically-produced *Lavandula angustifolia* Mill. Extract Rich in Rosmarinic Acid Resolves Psoriasis-related Inflammation Through JAK/STAT Signaling**

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**Supplementary Figure S1.**  *Lavandula angustifolia* extract (LV; **A**) and pure rosmarinic acid (RA, **B**) effect on cell viability in human keratinocytes. Both LV and RA at the 24th of treatment did not affect cell viability in HaCaT cells up to 100 μg/mL and 100 μM respectively.

Cell viability was evaluated through MTT assay. Shortly, HaCaT cells (1 x 104 cells/well) were seeded in 96-well plates and were cultured for 24 h to reach confluence. Then cells were treated with LV (0.1, 1, 10, 20, 50, 100, 500, 1000 µg/mL) or RA (0.1, 1, 5, 10, 20, 50, 100, 1000 µM) with or without IFN-γ/IL-17A/IL-22 stimulation (1/1/1 ng/mL). On the 24th hour of treatment 10 μL MTT reagent (5 µg/mL) per well was added and left for 3 h of incubation at 37 0C. Finally, 200 μL of 5% formic acid in isopropanol was used to dissolve the purple formazan crystals formed within the viable cells. Absorbtion was measured on a microplate reader Antos Zenyth 340 (Biochrom Ltd, Cambridge, United Kingdom) at 570 nm with reference filter at 620 nm. Cell viability was expressed as percentage from the non-treated controls, mean±SEM and \*p<0.05 compared to non-treated controls.

**Supplementary Table S1:** Primer sequences for the RT-qPCR analysis.

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| **Target gene (human)** | **Sequence forward primer (5’ - 3’)**  |  | **Sequence reverse primer (5’ - 3’)**  |
| *AKT1*  | CGAGCTGTTCTTCCACCTGT |  | TAATGTGCCCGTCCTTGTCC |
| *CCL2* | GATCTCAGTGCAGAGGCTCG |  | TTTGCTTGTCCAGGTGGTCC |
| *CCL20* | AGTTGTCTGTGTGCGCAAATCC |  | TCCAACCCCAGCAAGGTTCT |
| *CHUK*  | TTCTGTTACCACCTGATGAAAGTCT |  | ATTGAGAGGCTGGTTTCCGAG |
| *GAPDH* | CCCACTCCTCCACCTTTGAC |  | TCCTCTTGTGCTCTTGCTGG |
| *JAK2* | CAAAGCAACTGTCATGGCCC |  | TCTCGCTCGACAGCAAAAGT |
| *IL6* | TGCAATAACCACCCCTGACC |  | GTGCCCATGCTACATTTGCC |
| *IKBKB*  | TGAGAAGACTGTTGTCCGGC |  | CACTCTTCTTGGCTGGCTCA |
| *MAPK8* | CTGAAGCAGAAGCTCCACCA |  | CCTGTGCTAAAGGAGAGGGC |
| *MAPK1*  | CGTGTTGCAGATCCAGACCA |  | CCTGGAAAGATGGGCCTGTT |
| *MAPK14*  | GGGTTACGTGTGGCAGTGAA |  | CCCATGAGATGGGTCACCAG |
| *NFKB1* | GGCTACACCGAAGCAATTGAA |  | CAGCGAGTGGGCCTGAGA |
| *NFKBIA*  | GAAGTGATCCGCCAGGTGAA |  | CTCACAGGCAAGGTGTAGGG |
| *RELA*  | TTCCAACTGCCCCCAACTTT |  | TTTGAGTTTCCCCAGCTCCC |
| *S100A7* | ACACTCAAGCTGAGAGGTCCA |  | AAGACATCGGCGAGGTAATTTGT |
| *STAT1* | GGATCAGCTGCAGAACTGGT |  | GAAGGTGCGGTCCCATAACA |
| *STAT3* | ACCAACGACCTGCAGCAATA |  | TCTGCAGCTTCCGTTCTCAG |
| *TUBB*  | AGCCGTCTTACTCAACTGCC |  | GTCACCCAGAATGGCAGAA |