

Supplementary Information

1. Supplementary Figures and Figure legends

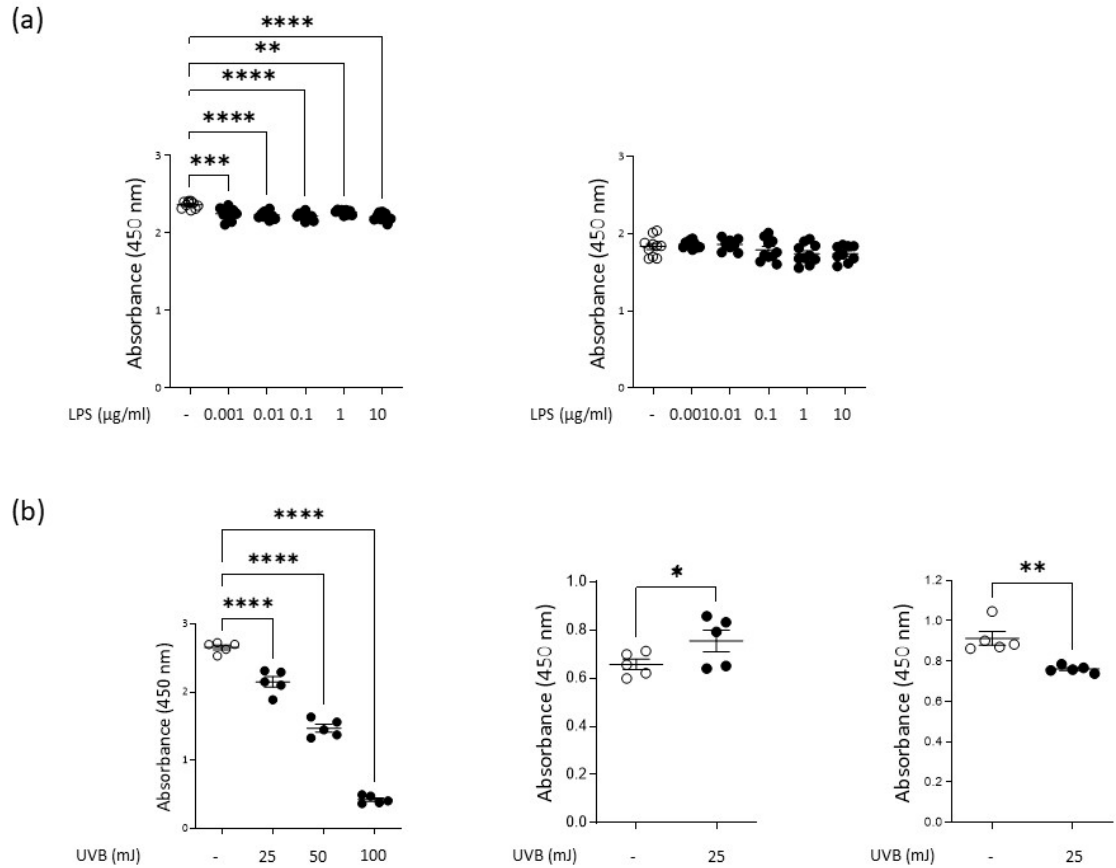


Figure S1. Optimal stress conditions that decrease survival of Caco-2 and HaCaT cells. (a) Caco-2 cell viability with lipopolysaccharide (LPS) treatment after 18 h (left) and 2 h (right). (b) Viability of ultraviolet (UV) B irradiated HaCaT cells after 18 h (left), 2 h (middle), and 4 h (right) of culture. Data are presented as the mean \pm SD. *P* values are determined by one-way ANOVA with Turkey's multiple comparisons test. **P* < 0.05, ***P* < 0.01, and *****P* < 0.0001.

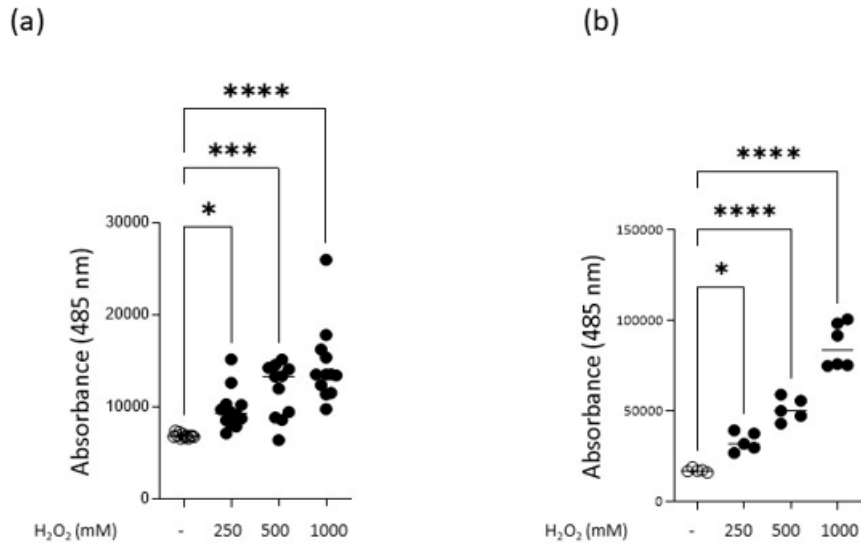


Figure S2. The optimal concentration of H₂O₂ to increase reactive oxygen species (ROS) levels in Caco-2 cells and HaCaT cells. (a and b) Oxidation of Caco-2 cells (a) and HaCaT cells (b) treated with the indicated concentrations of H₂O₂ for 18 h. Data are presented as the mean \pm SD. *P* values are determined by one-way ANOVA with Turkey's multiple comparisons test. **P* < 0.05, ****P* < 0.001, and *****P* < 0.0001.

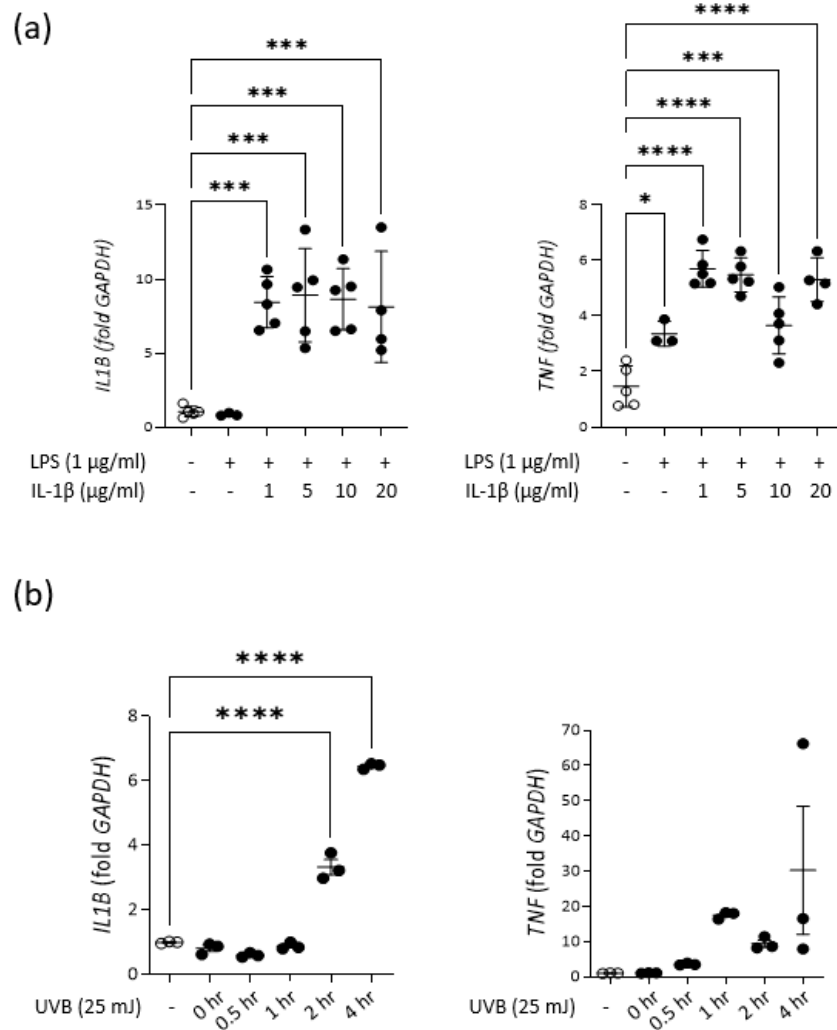


Figure S3. Optimal inflammatory stimulation and UVB irradiation to induce inflammatory mediators in Caco-2 and HaCaT cells, respectively. (a) mRNA expression of *IL1B* and *TNF* in Caco-2 cells stimulated with LPS (1 µg/mL) and various concentrations of IL-1β. (b) mRNA expression of *IL1B* and *TNF* in HaCaT cells irradiated with 25mJ/cm² UVB and incubated for the indicated times. Data are presented as the mean ± SD. *P* values are determined by one-way ANOVA with Turkey's multiple comparisons test. ****P* < 0.001 and *****P* < 0.0001.

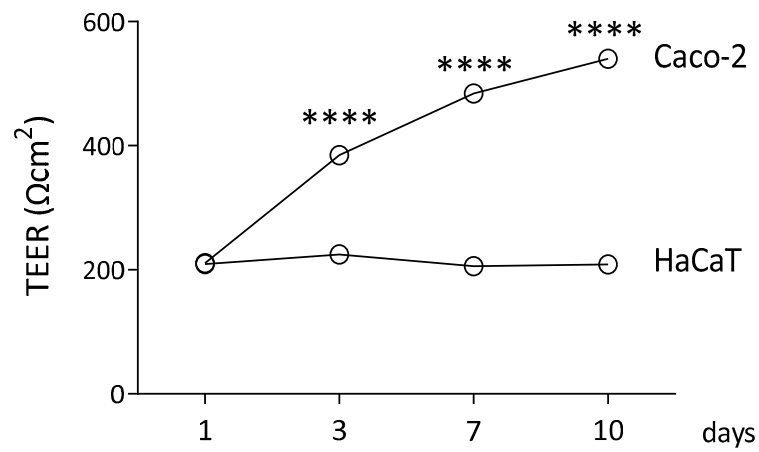


Figure S4. LPS treatment conditions to increase permeability in Caco-2 cells and HaCaT cells.

Transepithelial electrical resistance (TEER) of polarized Caco-2 cells and monolayer of HaCaT cells. Data are presented as the mean \pm SD. *P* values are determined by two-way ANOVA with Bonferroni's multiple comparisons test. *****P* < 0.0001.

2. Supplementary Table

Table S1. Primer sequences for real-time PCR

Target gene	Primer sequence
<i>S100A8</i>	Forward: 5'- ACCGAGTGTCTCAGTATATCA -3' Reverse: 5'- CTGGAGAAAGCCTTGAACCTCTA -3'
<i>IL1B</i>	Forward: 5'- CCACAGACCTTCCAGGAGAATG -3' Reverse: 5'- GTGCAGTTCAGTGATCGTACAGG -3'
<i>IL8</i>	Forward: 5'- AGAGTGATT GAGAGTGGACC -3' Reverse: 5'- ACTTCTCCACAACCC TCTG -3'
<i>TNF</i>	Forward: 5'- CCTGTGAGGAGGACGAACAT -3' Reverse: 5'- GGTTGAGGGTGTCTGAAGGA -3'
<i>RIPK3</i>	Forward: 5'- GCTGCTGTCTCCACGGTAA -3' Reverse: 5'- CCATCCATTTCTGTCCCTCCTT -3'
<i>GADPH</i>	Forward: 5'-CTGGGCTACACTGAGCACC-3' Reverse: 5'-AAGTGGTCGTTGAGGGCAATG-3'