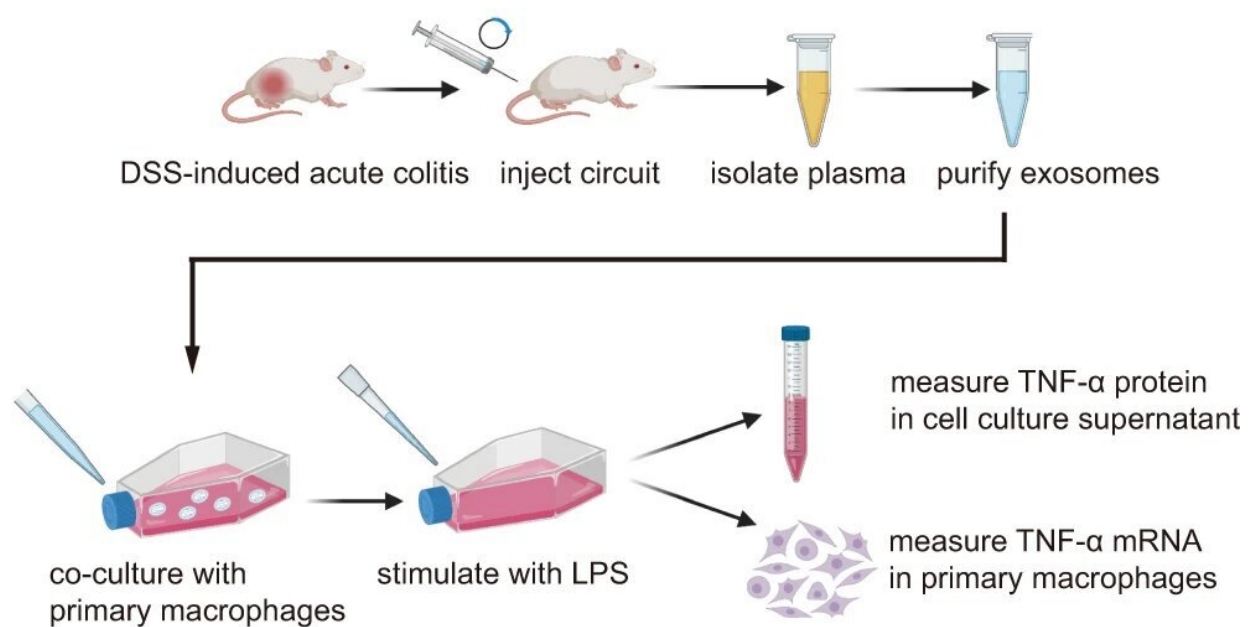


# In vivo self-assembled siRNA as a modality for combination therapy of ulcerative colitis

September 29 2022

**a**



Evaluation of the activity of TNF- $\alpha$  siRNA-encapsulating sEVs in an ex vivo model. **a** Schematic of the experimental design. Acute UC was induced in male BALB/c mice by replacing their drinking water with a 2.5% DSS solution for 7 days. DSS mice were intravenously injected with 5 mg/kg CMV-scrR or CMV-siR<sup>TNF- $\alpha$</sup>  circuit every day for a total of 7 times, and then the sEVs were purified from the plasma of each mouse and dissolved in 50  $\mu$ L PBS. BCA method was employed to quantify total protein content in sEVs, and the isolated sEVs had a total protein concentration of  $\sim$ 0.8  $\mu$ g/ $\mu$ L. Subsequently, the sEV solution (50

μL) was incubated with  $1 \times 10^5$  primary macrophages. After stimulating macrophages with 50 ng/mL LPS, the suppression of TNF-α expression by TNF-α siRNA were examined in this ex vivo model. **b** Quantitative RT-PCR analysis of the relative expression levels of TNF-α mRNA in primary macrophages ( $n = 6$  in each group). Created with BioRender.com. **c** Determination of the levels of secretory TNF-α protein in cell culture supernatant by ELISA ( $n = 6$  in each group). Values are presented as the mean  $\pm$  SEM. Significance was determined using one-way ANOVA followed by Dunnett's multiple comparison. \*\* $p$

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