Supporting Information

A versatile adeno-associated viral vector cross-linking platform capable of tuning cellular tropisms and simultaneously inducing solid-phase gene delivery

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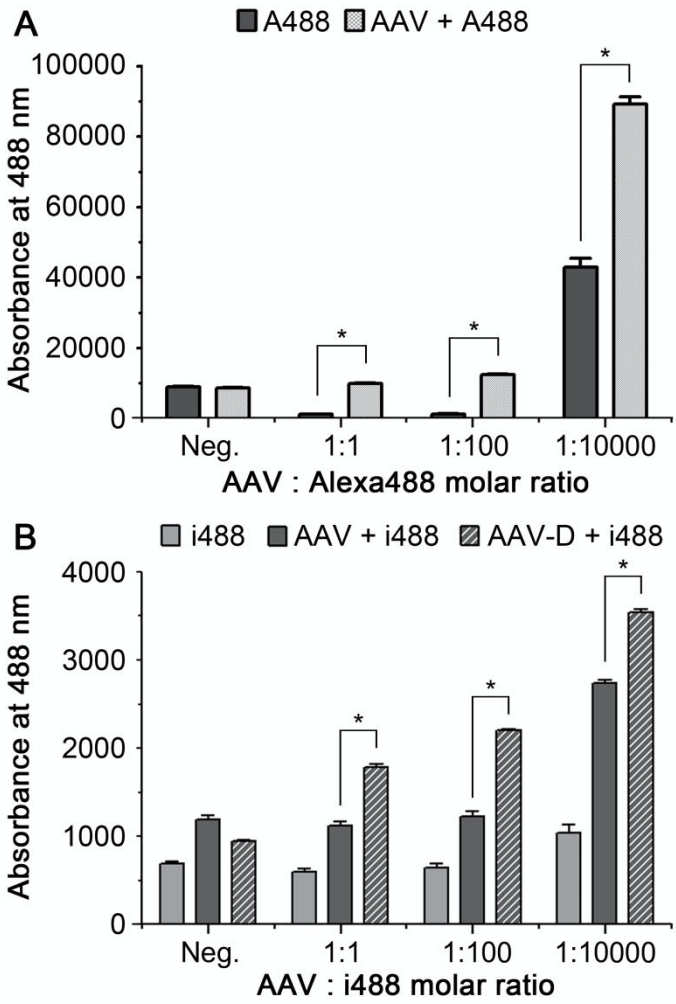

Figure S1. The degree of the conjugation of A488 to AAV8 (A) and i488 to AAV8-DTSSP complexes (B). The A488 and i488 were utilized as alternative substances containing the same functional groups (i.e., sulfo-NHS and amine group) to those on the DTSSP and aminated-L-fucose molecules, respectively. The negative control (i.e., Neg.) indicates the condition without including fluorescence molecules (i.e., POROS beads only, beads+AAV, beads+AAV+DTSSP). The symbol * indicates significant differences ($P<0.05$).

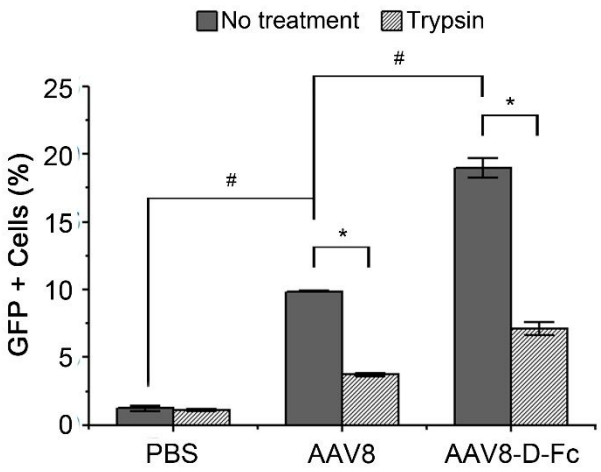

Figure S2. Investigation of delivery mechanisms. Cells (MIA PaCa-2) were treated with trypsin-EDTA (0.25%) and transduced by naïve AAV8 or AAV8-D-Fc vectors at an MOI of 20,000. The media was replaced with fresh media at 6 hours post-transduction (i.e., prior to the full recovery of the membrane-bound receptors), and the number of GFP expressing cells was quantified using flow cytometry at 48 hours post-infection. Symbols * and # indicate the significant differences in the percentages of GFP-expressing cells ($P<0.05$).

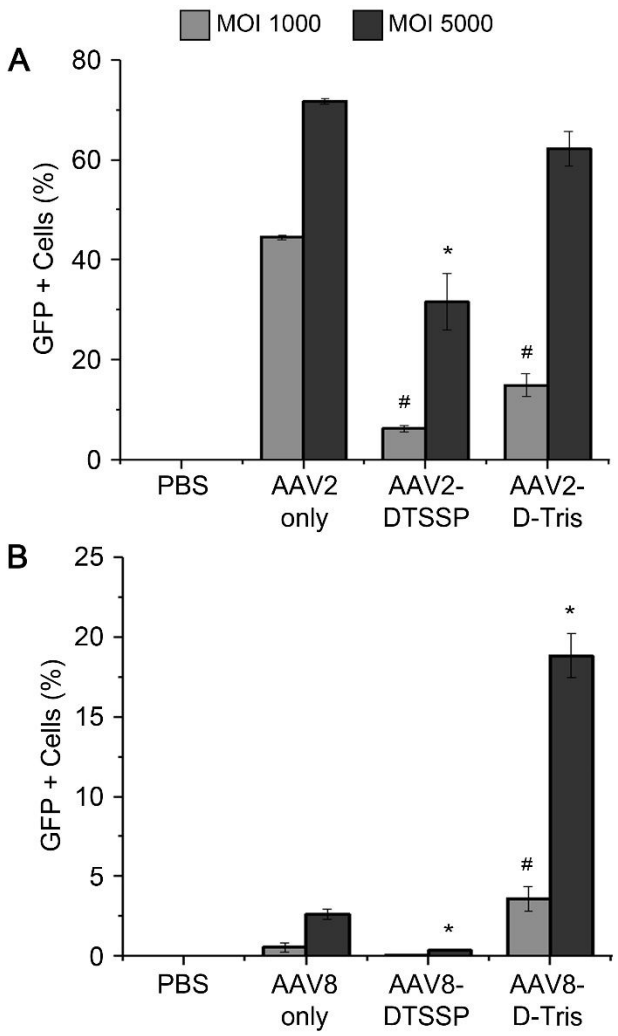

Figure S3. Cellular transduction (HEK293T cells) by **(A)** AAV2-DTSSP complexes and **(B)** AAV8-DTSSP complexes displaying Tris molecules (i.e., AAV2-D-Tris and AAV8-D-Tris). Symbols * and # indicate the significant differences in the percentages of GFP-expressing cells compared to the ones by the naïve AAV2 or 8 vectors.

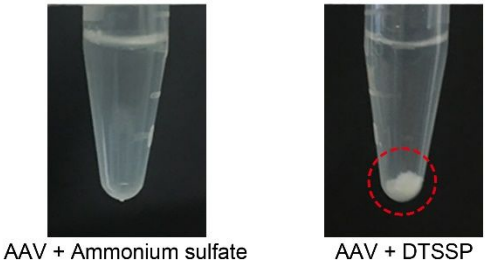

Figure S4. Comparison of the morphologies of the AAV-DTSSP pellets and the AAV precipitates formed by ammonium sulfate.

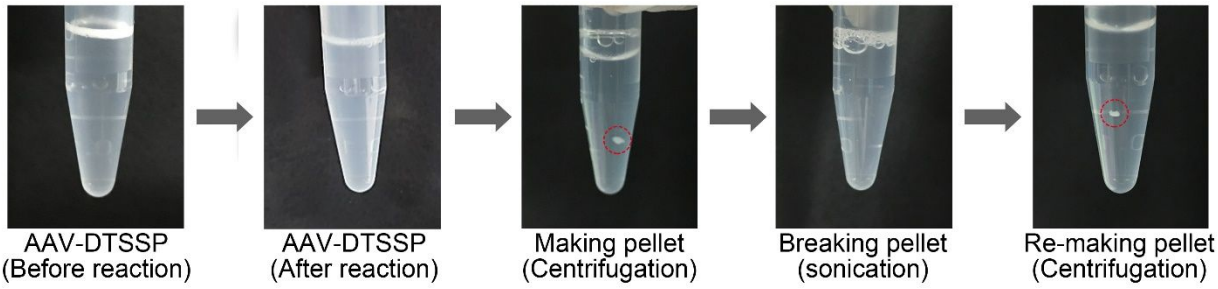

Figure S5. Reversibility of AAV-DTSSP pellet formation. The AAV-DTSSP pellets were resuspended by mild sonication and then centrifuged to reform the pellets (arrow).

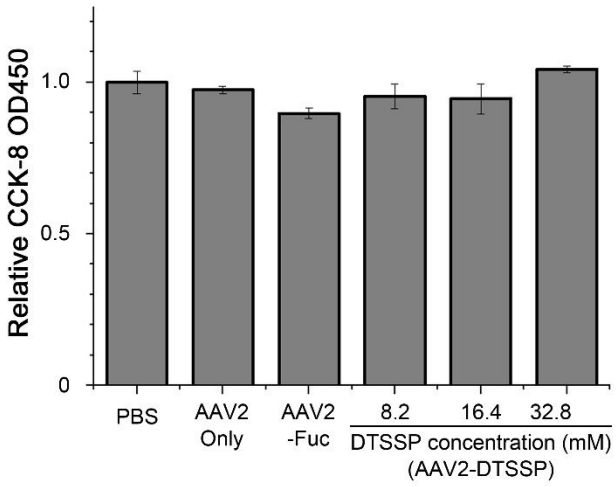

Figure S6 Cell viability of HEK293T cells after transducing with PBS, AAV2, AAV2-DTSSP-Fucose (AAV2-D-Fc) and AAV2-DTSSP (at final concentrations of 8.2, 16.4 and 32.8 mM DTSSP) at a MOI of 5000.