



**Figure S1**

**Detrimental effects on astrocytes in culture caused by AVV.**

Signs of deterioration caused by toxic titres of different AVV were evident in bright field as soon as 24 hours after the transduction of astrocytes.

**A:** AVV-sGFAP-ChR2-Venus (24h;  $4 \times 10^8$  TU/ml). **B:** AVV-sGFAP-ChR2(H134R)-Katushka1.3 (24h;  $1 \times 10^9$  TU/ml). **C:** AVV-sGFAP-ChR2(H134R)-mKate (24h;  $4 \times 10^8$  TU/ml). **D:** AVV-sGFAP-CatCh-EYFP (24h;  $5.6 \times 10^8$  TU/ml). **E:** AVV-sGFAP-opto $\beta$ 2AR (24h;  $1.9 \times 10^{10}$  TU/ml). **F:** AVV-sGFAP-opto $\alpha$ 1AR (24h;  $2.6 \times 10^{10}$  TU/ml). **G:** AVV-sGFAP-EGFP (24h;  $4.8 \times 10^8$  TU/ml). **H:** AVV-sGFAP-EGFP (healthy astrocytes; 24h;  $4.8 \times 10^7$  TU/ml).