几种 AAV 在背根神经节神经元细胞的表达的比较

1. 注射2周后，AAV1, AAV5和AAV6是转导背根神经节神经元是最多的血清型，AAV8、AAV2、和AAV4次之，AAV3是最差的。慢病毒感染的神经元屈指可数，但是它能够感染位于神经节内神经束中的非神经细胞。
2. 观察AAV1、AAV5和AAV6这种3种AAV在1-12周的GFP表达水平，AAV5是感染背根神经节神经元最有效的血清型，AAV1次之。AAV5和AAV1随着时间推移，神经元转导效率增加，AAV5甚至在一些注射后12周产生90%以上的背根神经节GFP阳性神经元。AAV6最初的转导效率还可以，但是转导率在4-12周之间急剧下降。
3. 结论：AAV5是感染背根神经节神经元细胞最有效的载体。

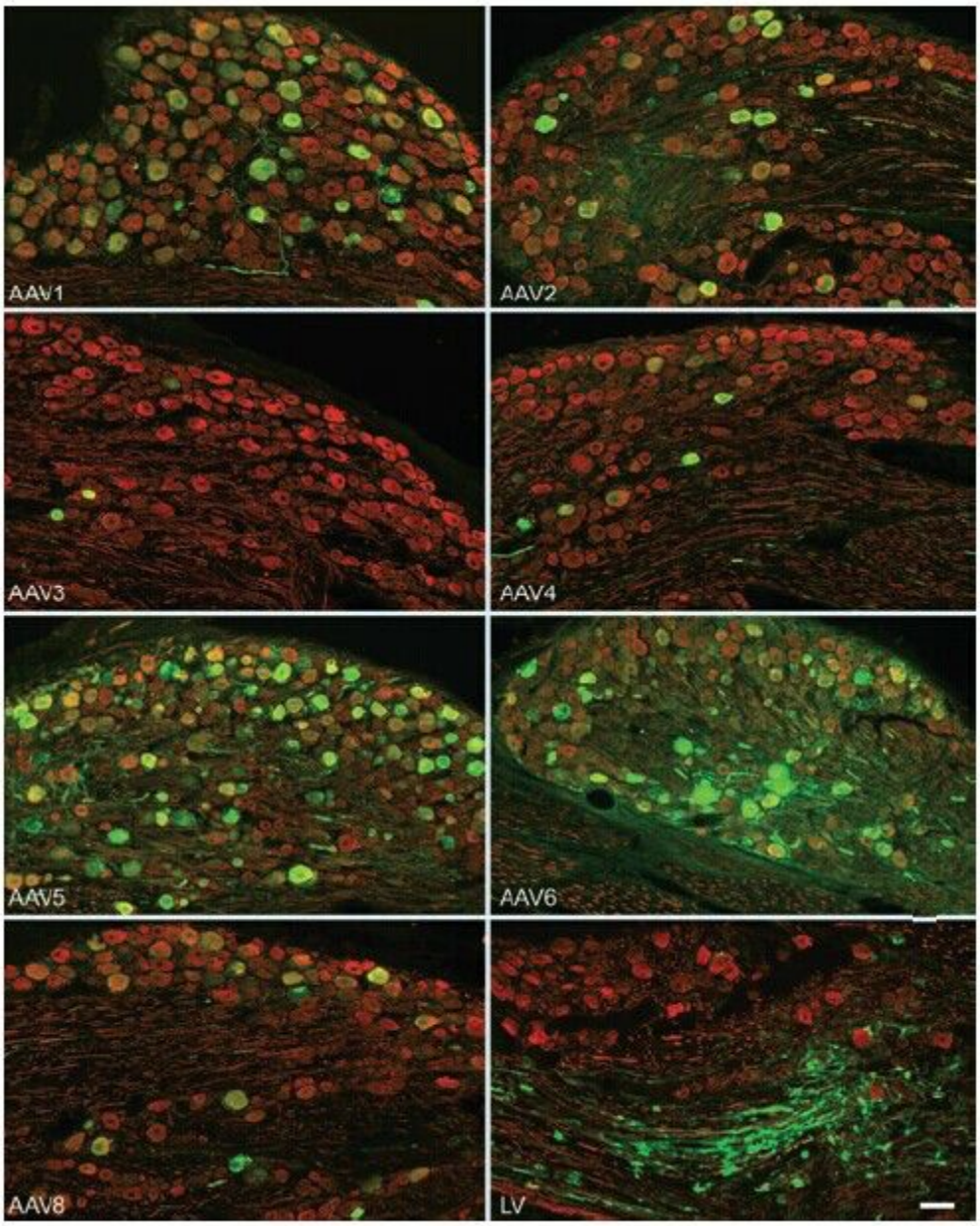
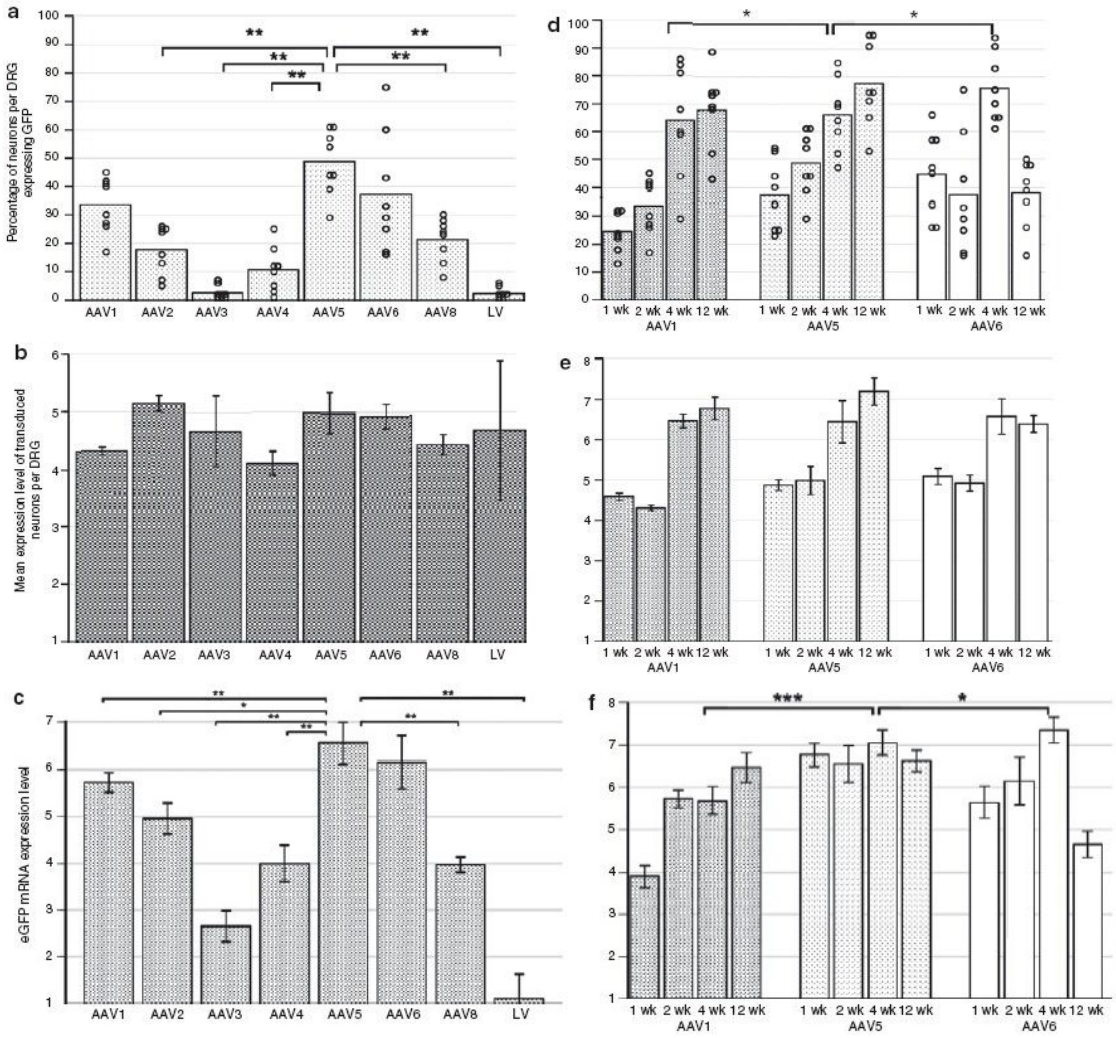


Figure 1 GFP expression in sections of dorsal root ganglia (DRG) injected with vectors based on AAV serotypes 1, 2, 3, 4, 5, 6, and 8, and a lentiviral vector 2 weeks after injection. Sections were processed for immunohistochemistry for GFP (green) and βIII-tubulin (red). Representative sections are shown. AAV5 has the highest transduction rate, followed by AAV1 and AAV6. Bar = 100 μm. AAV, adeno-associated virus; GFP, green fluorescent protein; LV, lentiviral vector.
4.



Quantification of transduction rates and expression levels. (a–c) Quantification of GFP-expressing neurons after injection of viral vectors based on AAV serotypes 1, 2, 3, 4, 5, 6, and 8, and a lentiviral (LV) vector, 2 weeks after injection. (a) Percentages of neurons expressing GFP. Points represent transduction rates from individual ganglia. (b) Average expression level per DRG, expressed as a multiple of background fluorescence. For each ganglion, the mean log expression level of GFP-expressing cells was calculated. (c) Relative mRNA expression levels determined by qPCR. Values are shown on a log-2 scale. (d–f) Time course of GFP expression after injection of AAV1, AAV5, and AAV6. The 2-week time point is included again for clarity. (d) Percentages of neurons expressing GFP. Circles represent transduction rates from individual ganglia. (e) Average expression level per

DRG is calculated as in b. (f) mRNA expression levels are determined by qPCR as in c. *P < 0.05, **P < 0.01, ***P < 0.001 (ANOVA and Dunnett's T3 post hoc test, a–c; two-way ANOVA and Dunnett's post hoc test, d–f). Error bars are SEM, n = 8 DRG. AAV, adeno-associated virus; ANOVA, analysis of variance; DRG, dorsal root ganglia; GFP, green fluorescent protein.

参考文献：Comparison of AAV Serotypes for Gene Delivery to Dorsal Root Ganglion Neurons