Adeno-Associated Virus
General Guideline to Serotype Selection

AAV Transduction Efficiency Dependence on Serotype

Human Primary Cell lines vs. AAV Serotypes

Cell lines/AAV Serotypes	AAV1	AAV2	AAV3	AAV4	AAV5	AAV6	AAV7	AAV8	AAV9
BJ Fibroblasts	+	+	+	-	-	+	-	-	+
BJ hTERT Fibroblasts	++	+	+	-	-	+	-	-	-
ES Cell	-	+	++	-	-	+	-	-	-
HUVEC	+++	+++	++	-	+	+++	+	+	+
Keratinocyte	++	+	+	-	-	+++	-	-	-
Hematopoietic Progenitor	-	-	-	-	-	+	-	-	-

Human Immortalized Cell lines vs. AAV Serotypes

Cell lines/AAV Serotypes	AAV1	AAV2	AAV3	AAV4	AAV5	AAV6	AAV7	AAV8	AAV9
CaCo-2	+	-	-	-	-	-	-	-	-
HBEC	+++	+++	+++	-	+	+++	+	-	+
HEK 293	++	+++	+++	-	-	++	+	+	+
HeLa	+++	+++	+++	-	-	+++	+	+	+
HepG2	++	++	++	-	-	++	-	-	-
HT-29	+	+	-	+	-	+	-	-	-
Jurkat	+	-	-	-	-	+	-	-	-
K562	+	-	-	-	-	-	-	-	-
MCF-7	+	+	+	-	-	-	-	-	+
TF-1a	+	+	++	+	-	+	-	-	-
Saos-2	++	+++	+++	++	-	+++	-	-	+
U2OS	+++	+++	++	-	-	++	-	+	+

Adapted from Ellis et al. A survey of ex vivo/in vitro transduction efficiency of mammalian primary cells and cell lines with Nine natural adeno-associated virus (AAV1-9) and one engineered adeno-associated virus serotype. Virology Journal. 2013. 10:74

Legend:

Range	Symbol
0-5 (<5)	-
5-40 (<40)	+
40-80 (<80)	++
>80	+++

* The cells were analyzed by flow cytometry at 48 hours post-infection for the percentage that were GFP positive. MOI was used at 100,000 viral genomes (vg)/ cell. The number in the legend was the actual percentage of GFP positive cells with the particular serotype.

Updated November 25, 2015