

FIG. 1

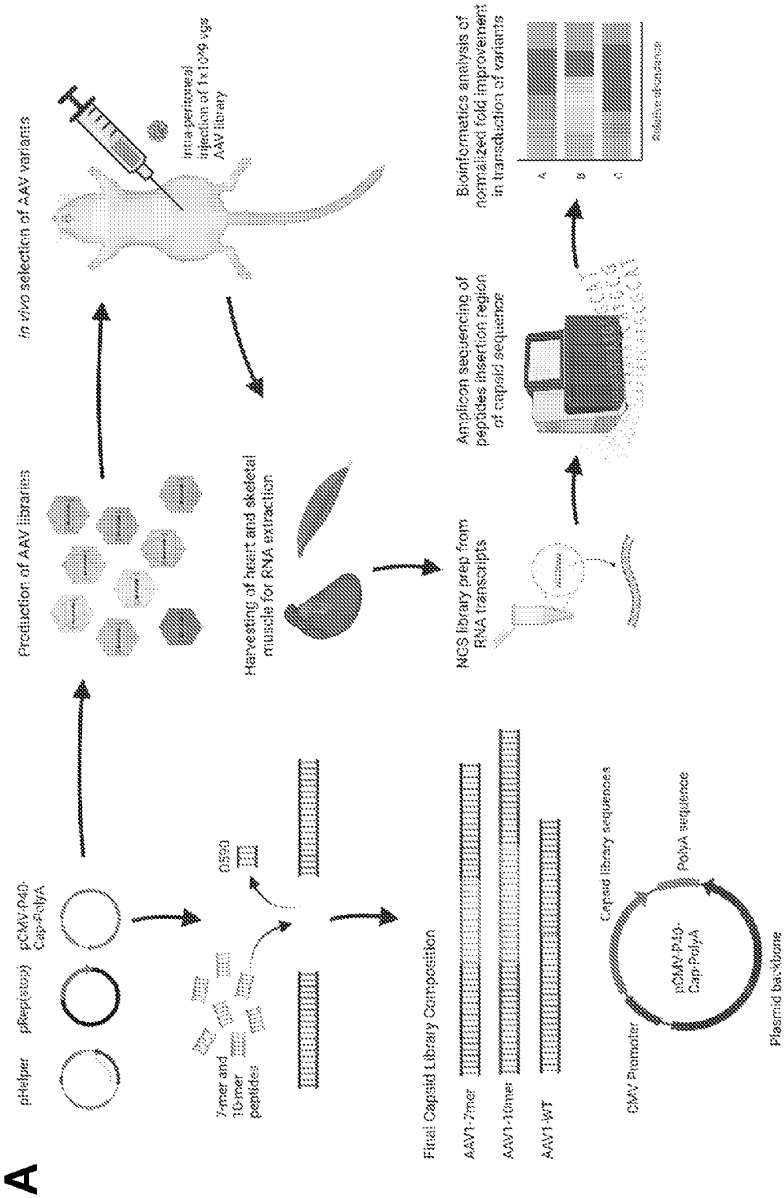


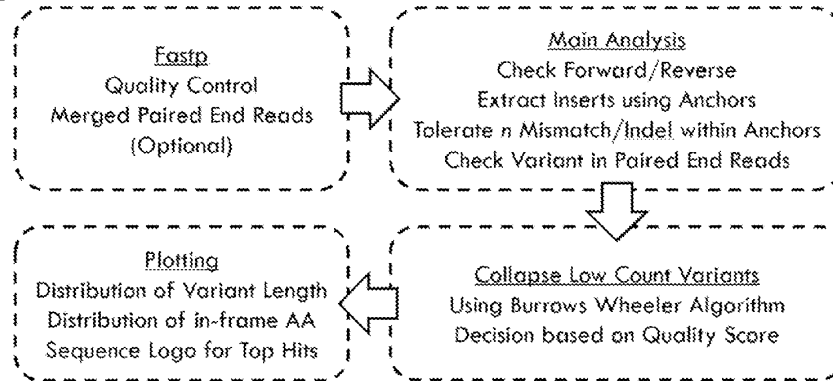
FIG. 1 (continued)**B**

FIG. 1 (continued)

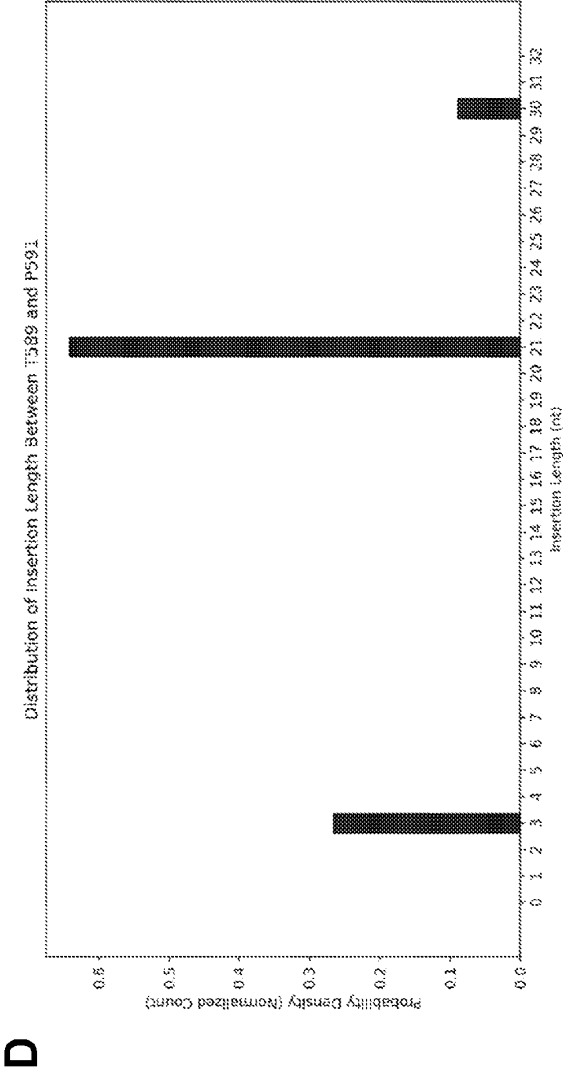
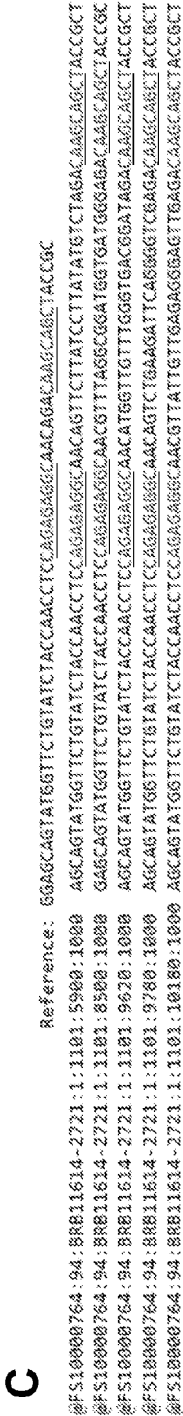


FIG. 1 (continued)

E

Distribution of in-frame peptide between T589 & P591

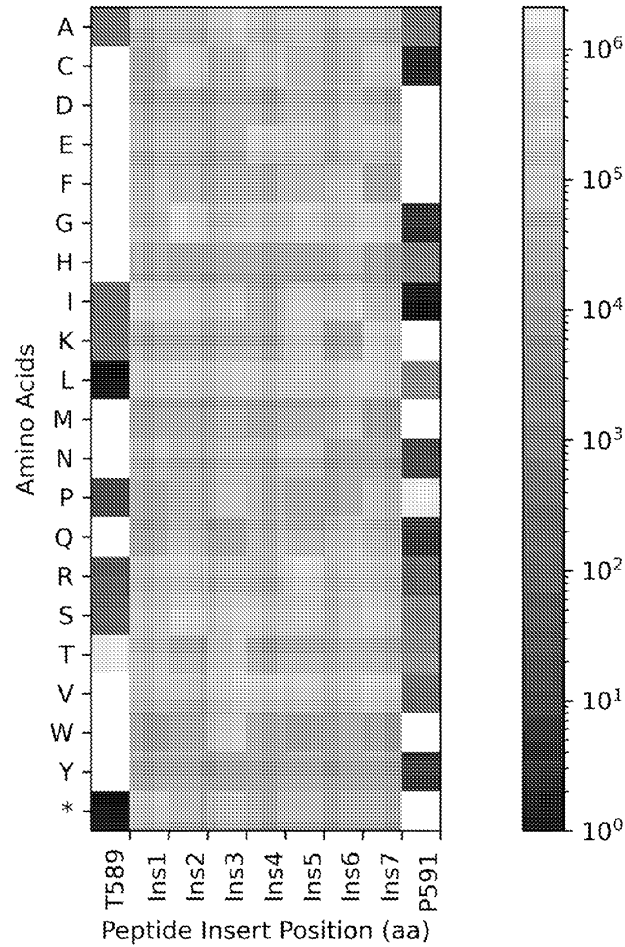


FIG. 1 (continued)**G**

$$\text{Normalization Factor} = \frac{\text{AAV1-WT count in original AAV Pool}}{\text{AAV1-WT count in Tissue Sample}}$$

$$\text{Normalized AAV1 variants count} = \text{AAV1 variants count in Tissue Sample} * \text{Normalizing Factor}$$

$$\text{Transduction Fold Change} = \frac{\text{Normalized AAV1 variants count}}{\text{AAV1 variant count in original AAV Pool}}$$

FIG. 2

A

Studies	Engineered variants	Fold improvement over parent serotype (quant. by vgs)	Specificity (Cardio/Muscle)	Muscle de-targeted
Present disclosure	AAV1-GINIGVA	~36-fold (over AAV1)	~212-fold	~0.17-fold
	AAV1-NGGVICISMS	~64-fold (over AAV1)	~194-fold	~0.33-fold
	AAV1-CDEGKPA	~102-fold (over AAV1)	~150-fold	~0.68-fold
Rode L et. al., 2022	AAV2-THGTPAD	3.6-fold (over AAV2)	Not investigated	Not investigated
	AAV2-NLPGSGD	4.4-fold (over AAV2)	Not investigated	Not investigated
Shen S et al., 2013	AAV2G9 (base edits)	~25-fold (over AAV2)	~6.25-fold	Not investigated
Piacentino V et al., 2012	AAV3b-SASTG	~21-fold (over AAV1) ~8-fold (over AAV9)	Not investigated	Not investigated
Yang L et al., 2009	AAV-M41 (shuffled)	2.3-fold (over AAV9)	Not investigated	Not investigated
Asokan A et al., 2009	AAV2i8	A few fold (over AAV2 and AAV8)	Not investigated	Not investigated
Yu CY et al., 2009	AAV2-ASSLNIA	24.3-fold (over AAV2)	Not investigated	Not investigated
Ying Y et al., 2010	AAV2-PSVSPRP and AAV2-VNSTRLP	10-20-fold (over AAV2)	Not investigated	Not investigated

FIG. 2 (continued)

B

Studies	Engineered variants	Fold improvement over parent serotype (quant. by vgs)	Specificity (Muscle/Cardio)	Cardiomyocyte de-targeted
Present disclosure	AAV1-EEPLPVLRGF	~35-fold (over AAV1)	~40-fold	~0.88-fold
	AAV1-RPFAVSS	~108-fold (over AAV1)	~35-fold	Not de-targeted
	AAV1-CRISHLD	~25-fold (over AAV1)	~43.21-fold	~0.57-fold
Shen S et al., 2013	AAV2G9 (chimeric)	~4-fold (over AAV2)	~0.16-fold	Not investigated
El Andari J et al., 2022	AAVMYO2 and AAVMYO3 (shuffled)	2-3 fold (over AAV9)	Not investigated	Not investigated
Tabebordbar M et al., 2021	AAV9-RGDLTTP	23-fold (over AAV9)	Not investigated	Not investigated
Qiao C et al., 2010	AAV6-Y445F and AAV6-Y731F	6-fold (over AAV6)	Not investigated	Not investigated
Paulk NK et al., 2018	AAV-NP22, AAV-NP66 and AAV-NP94 (chimeric)	5-fold to 14-fold (over AAV6)	Not investigated	Not investigated