

Fig. 1A

The Dearth of Cell type Technology is a Bottleneck in Modern Biology and Medicine

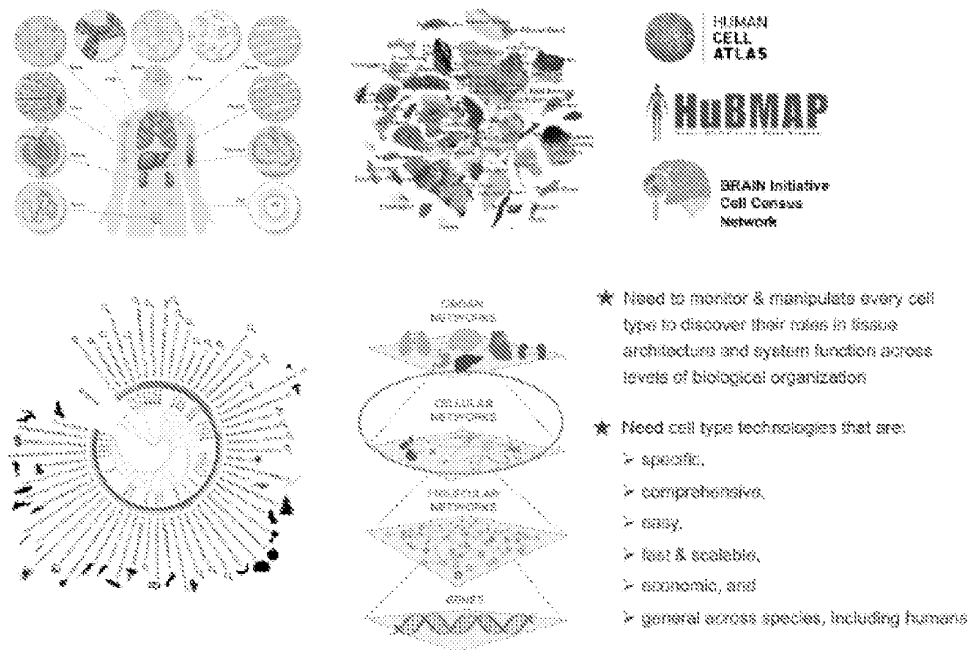
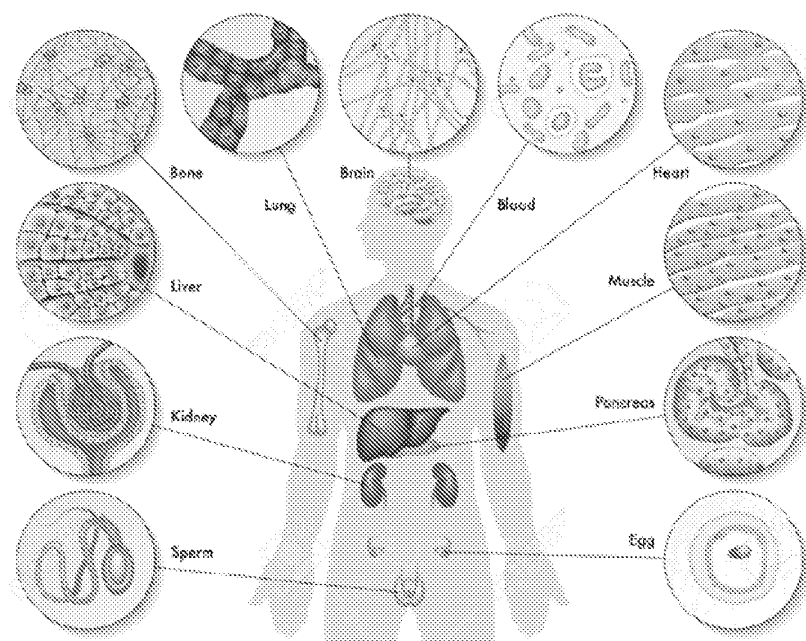


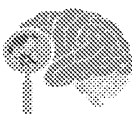
FIG. 1B



HUMAN
CELL
ATLAS



HuBMAP
Human BioMolecular Atlas Program



**BRAIN Initiative
Cell Census
Network**

FIG. 1C

CellREADR design and implementation in mammalian cells

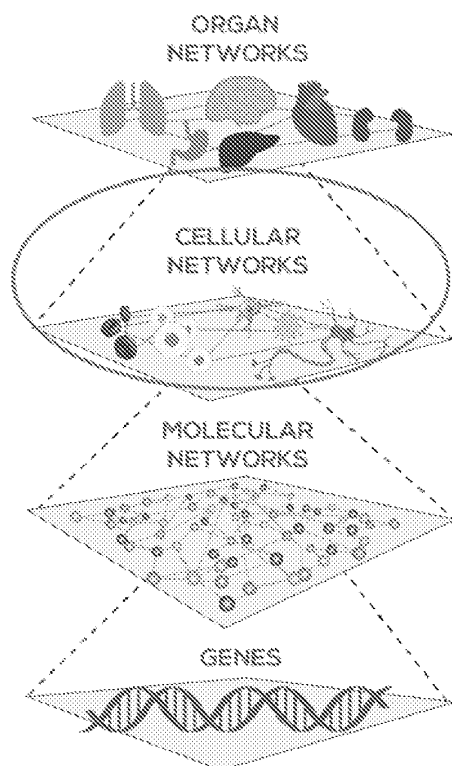


FIG. 1E



Fig. 2

Striving for a paradigm shift in cell type technology: from germline DNA to somatic RNA

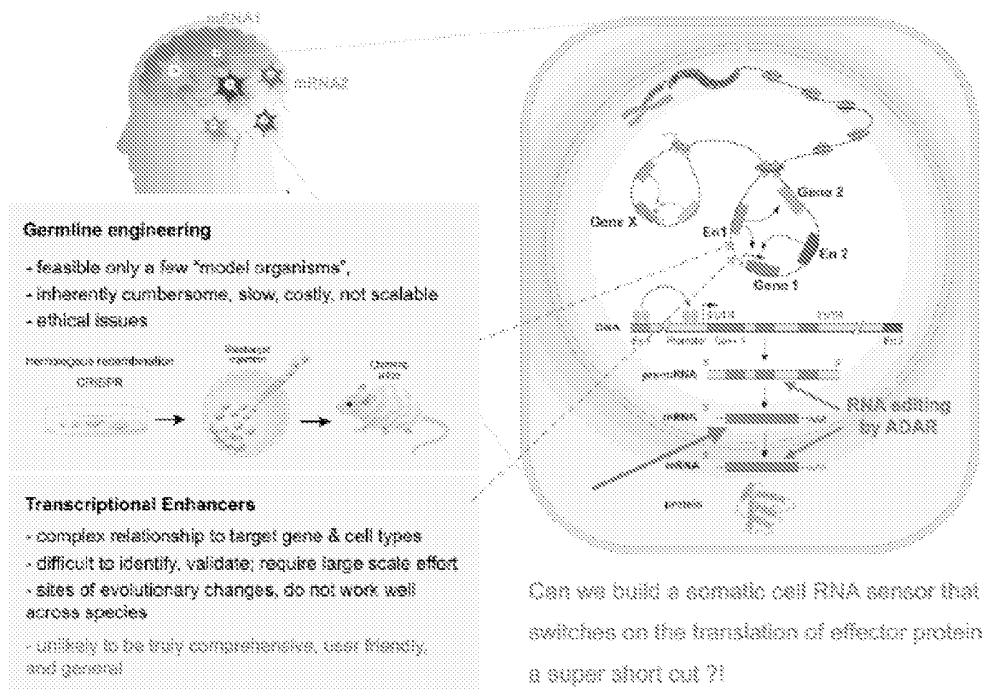


FIG. 3A

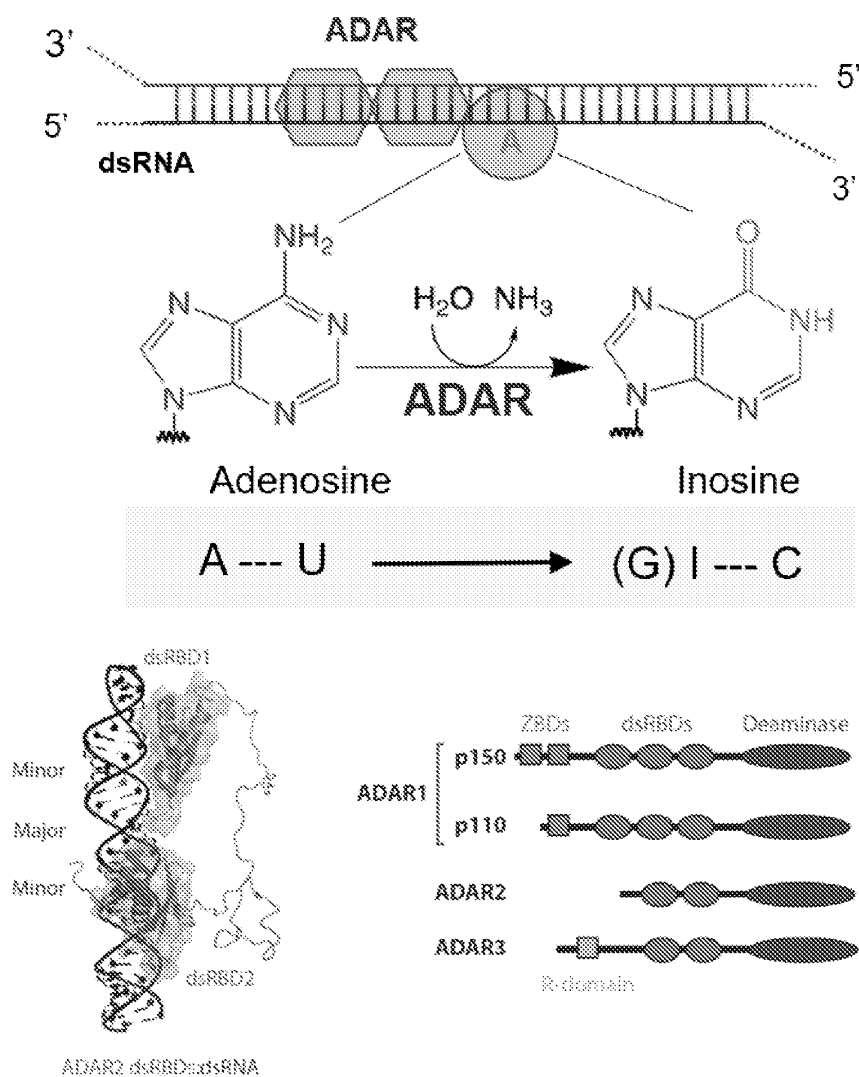
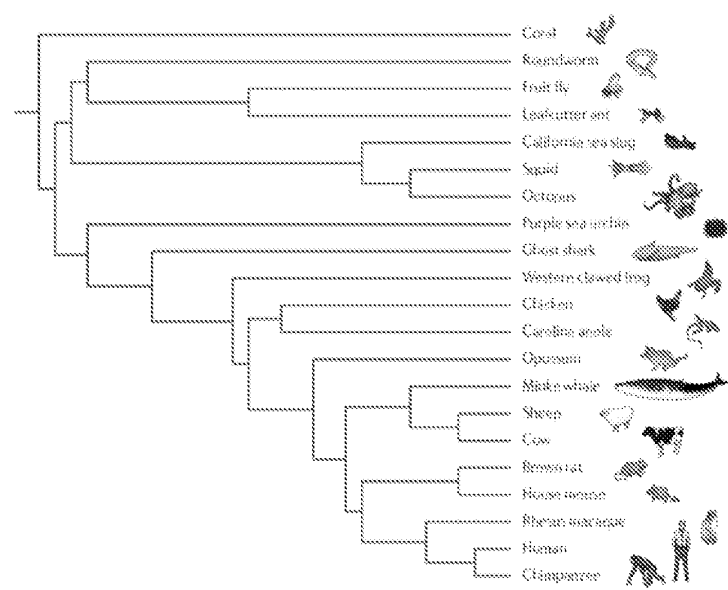


FIG. 3B



Nishikura, 2009; Eisenberg & Levanon, 2018

Fig. 4

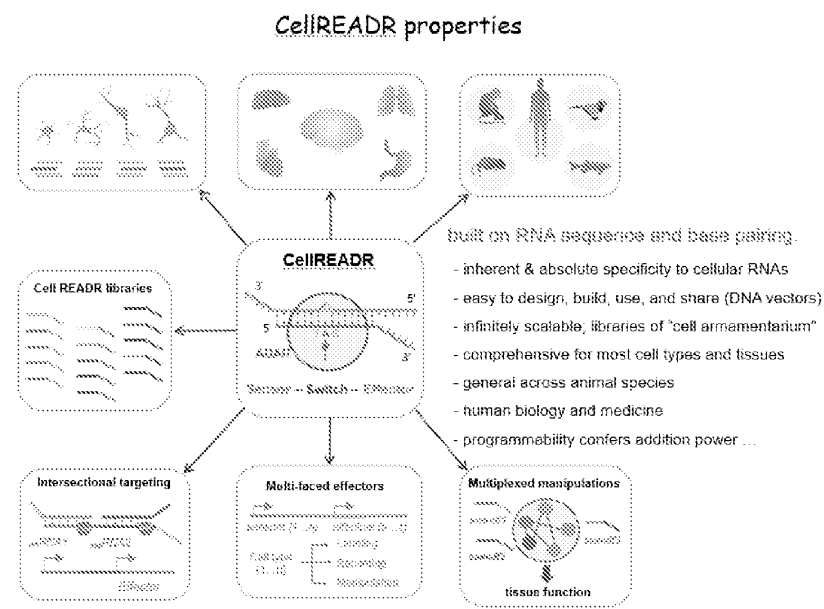


Fig. 5

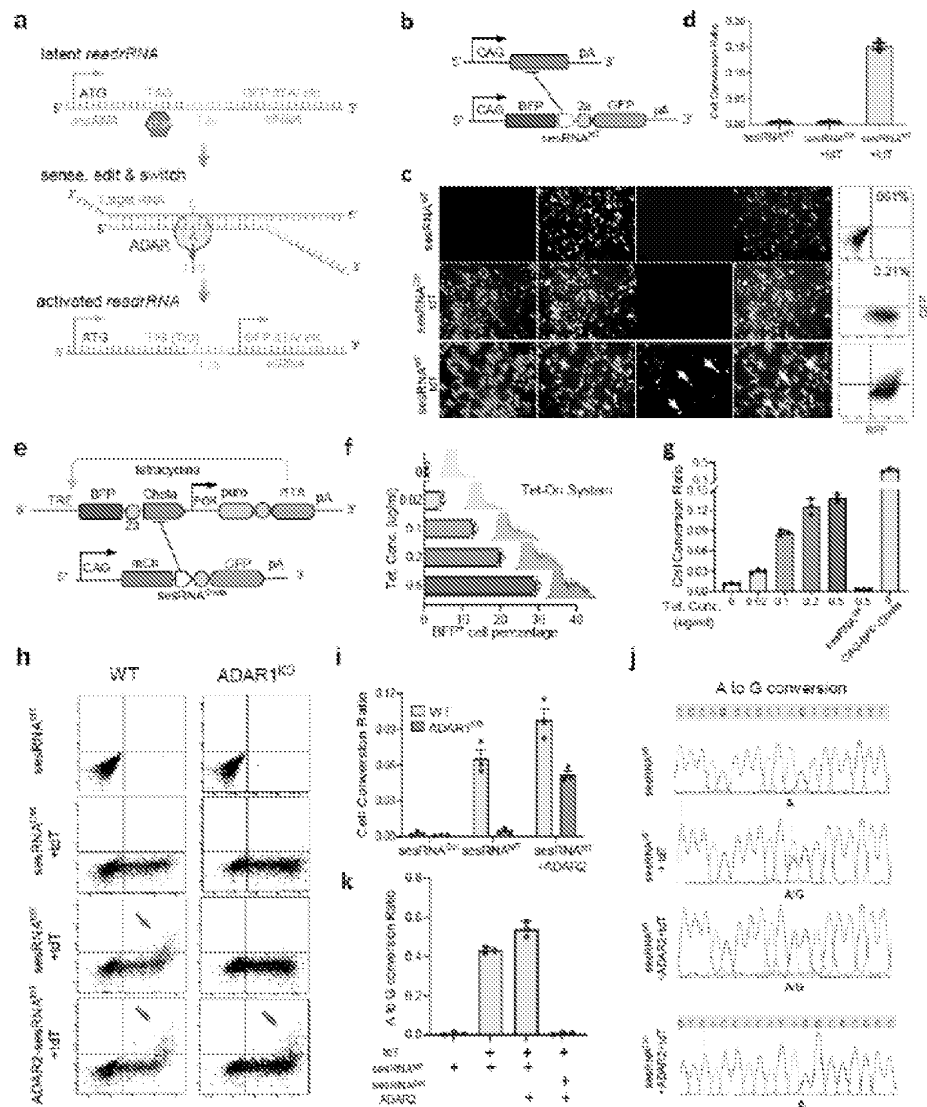


Fig. 6 Properties of sesRNA

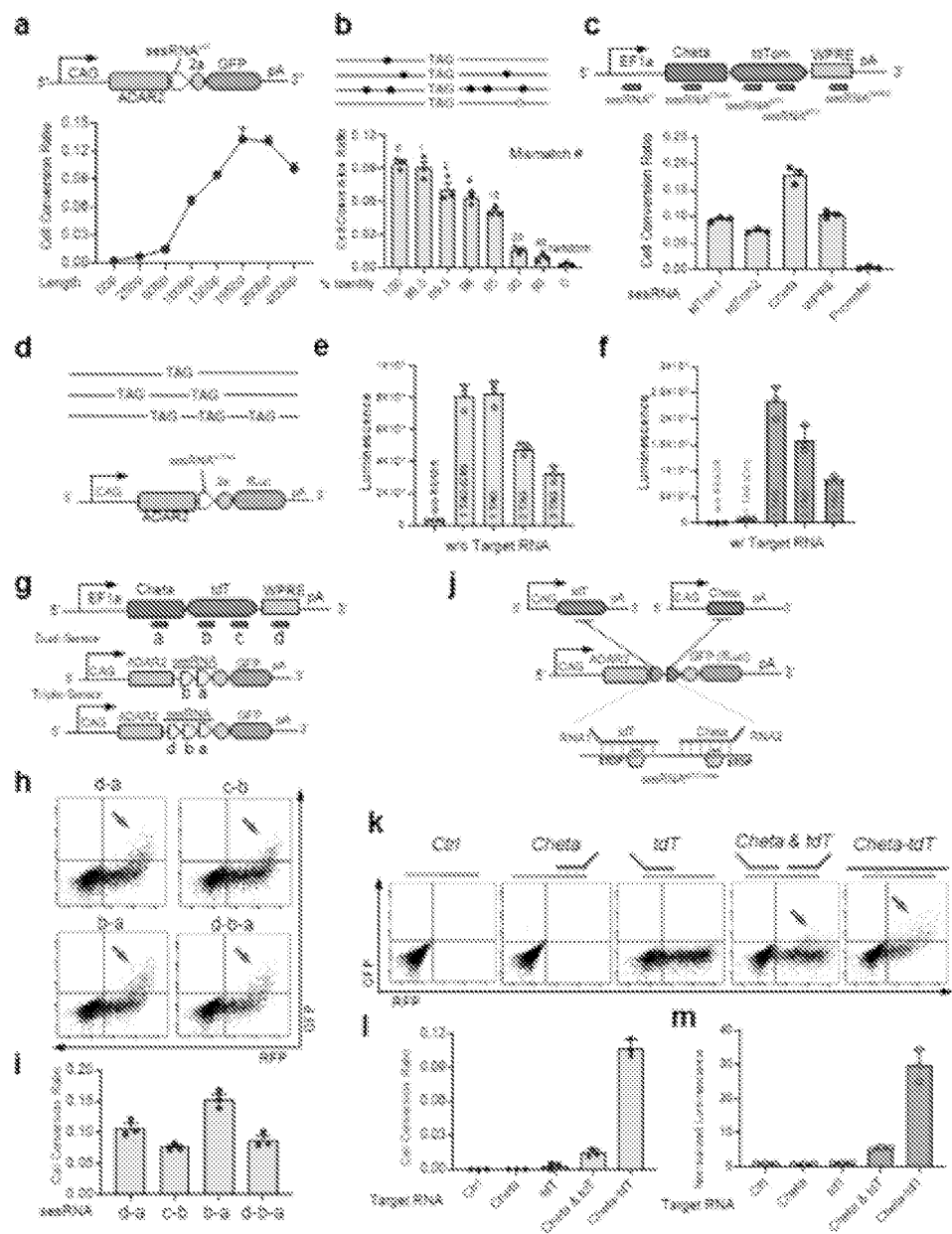


Fig. 7 Endogenous RNA sensing with CellREADR

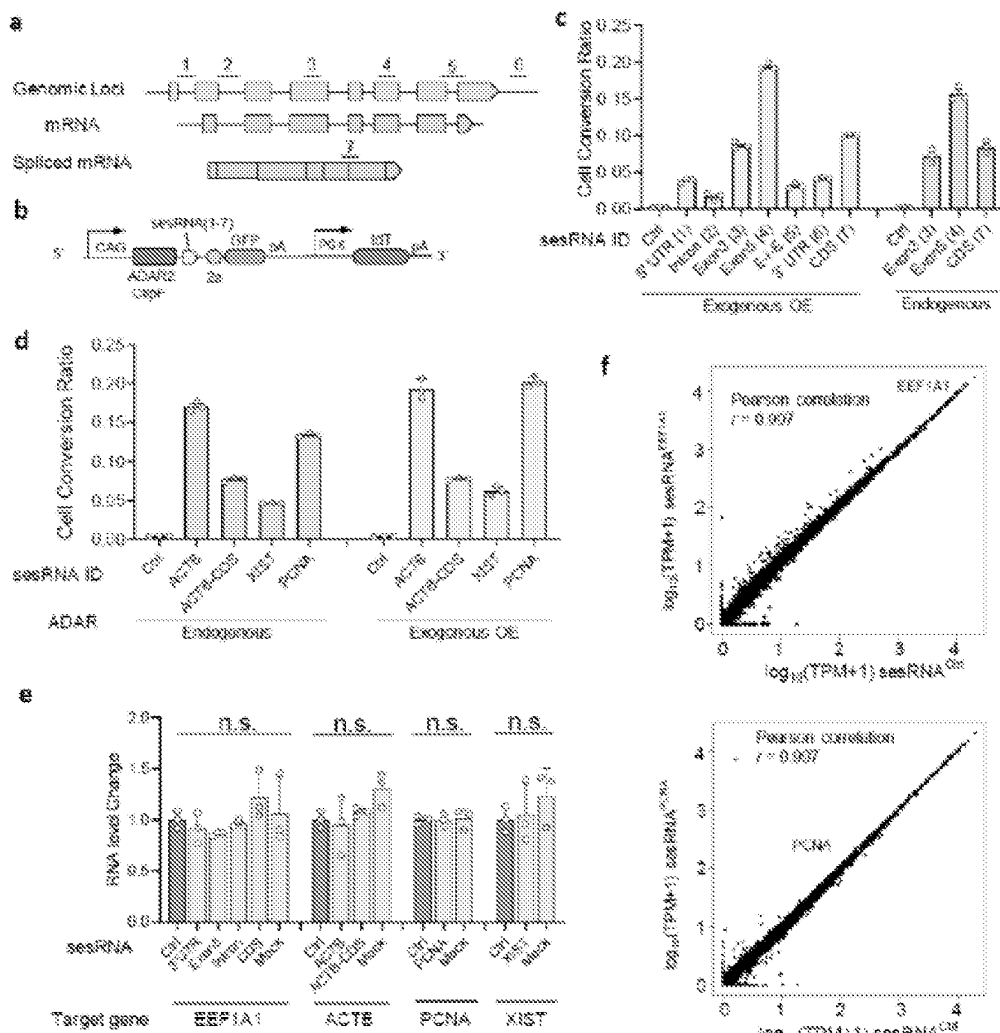


Fig. 8 Endogenous RNA sensing with CellREADR

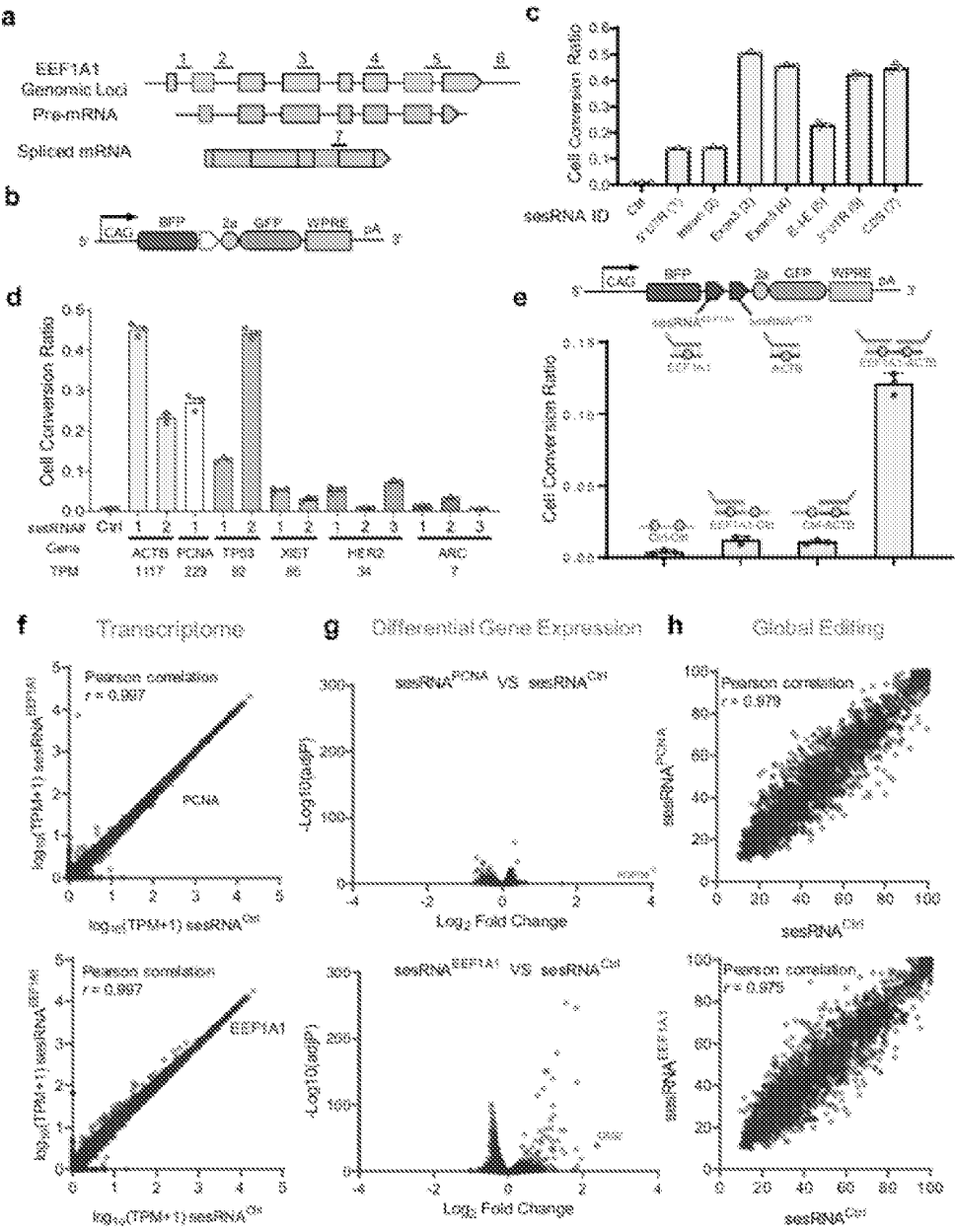


Fig. 9 CELLREADR targeting of neuronal cell types

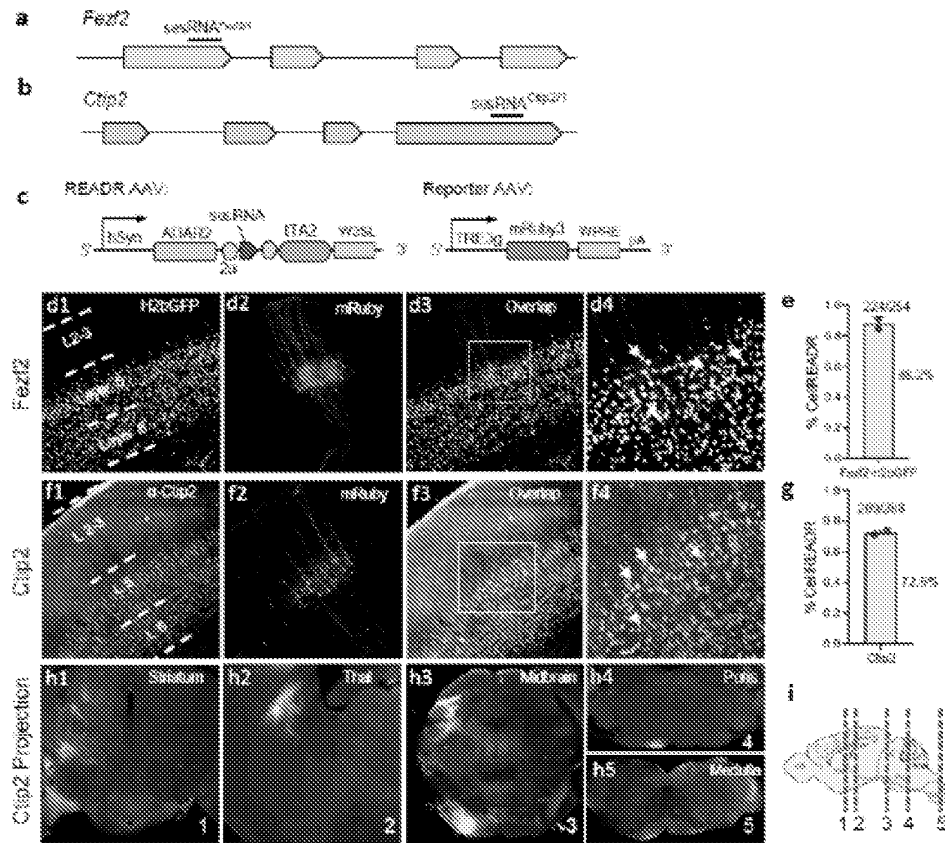


Fig. 10 Design and test of singular and binary CellREADR vectors

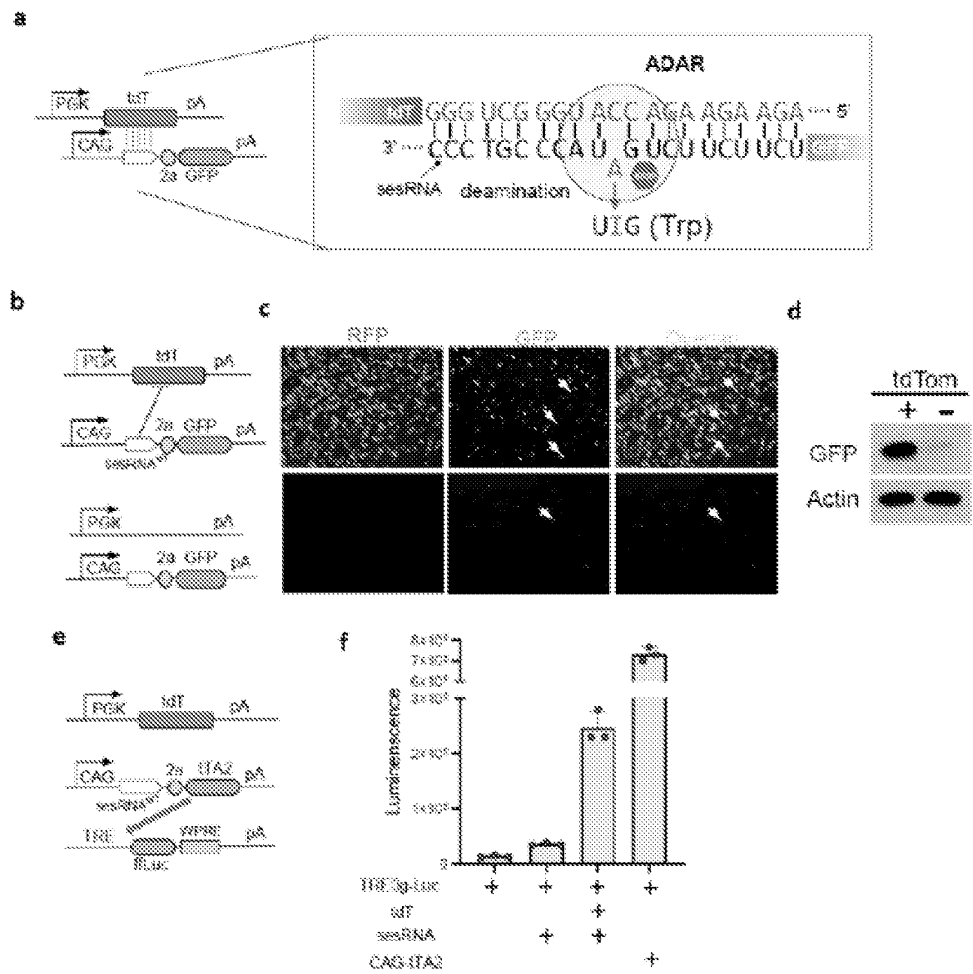


Fig. 10 continued

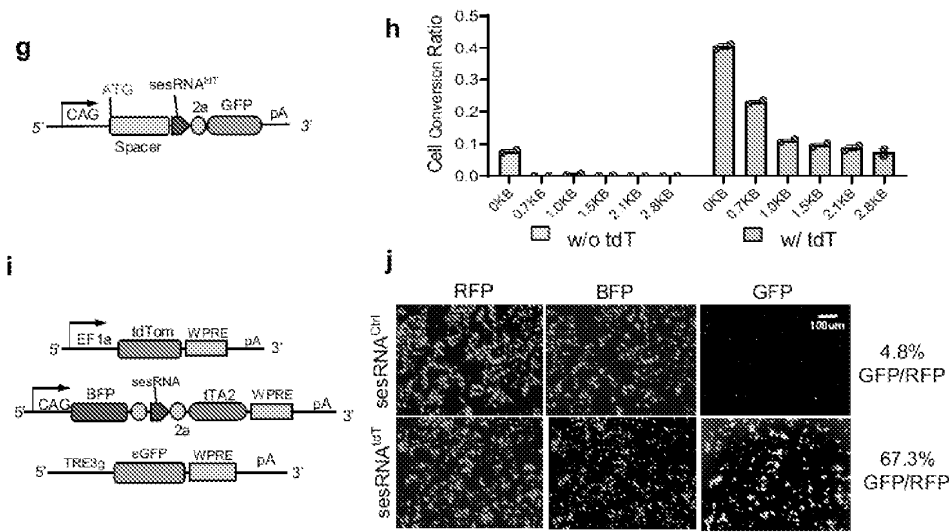


Fig. 11 Spacer sequences reduced the leakage of readrRNA

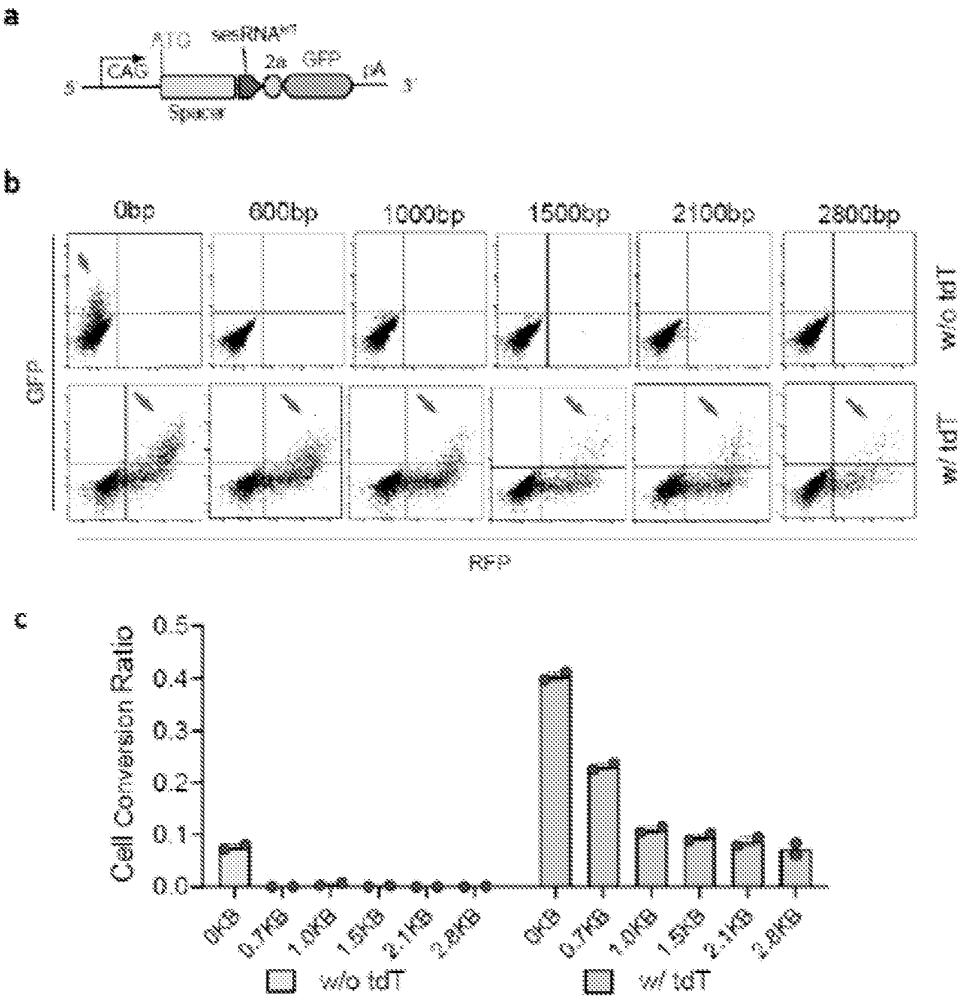


Fig. 12 CellREADR efficiency correlates with the expression level of target RNA

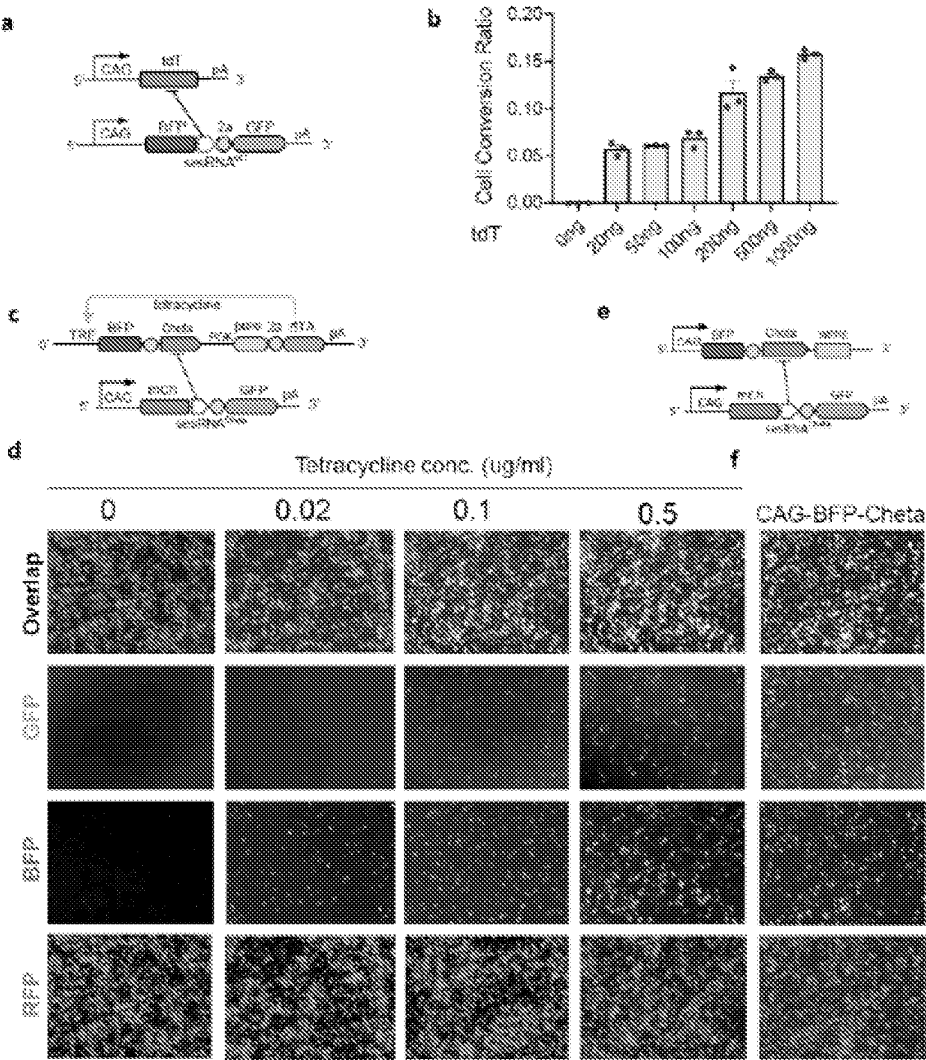


Fig. 13 CellREADR enables RNA sensing dependent gene editing and cell ablation

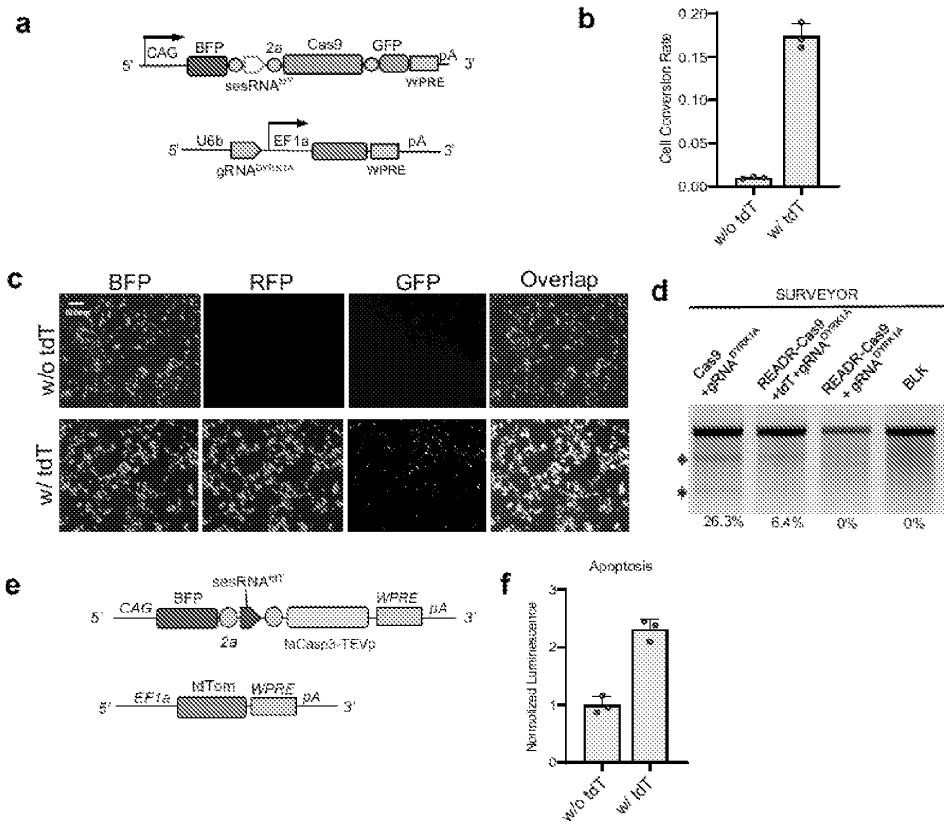
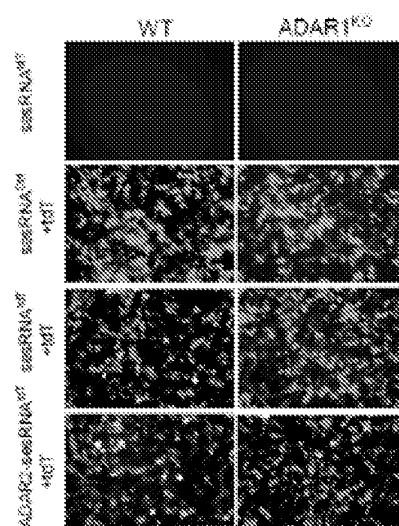
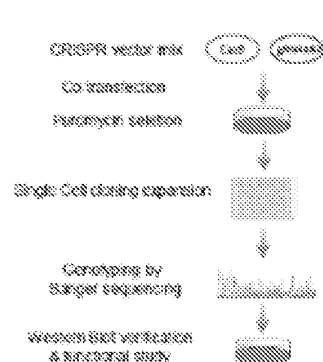
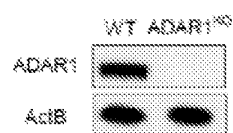


Fig. 14 ADAR1 is necessary for CellREADR in 293T cells.**Fig. 14 a****Fig. 14 b****Fig. 14C (1)**

Rescue plasmids:

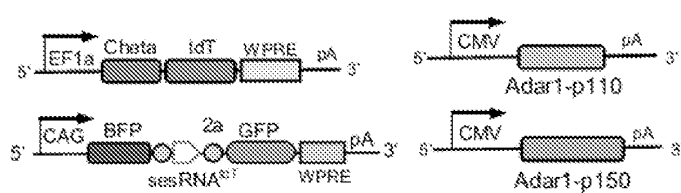


Fig. 14 (continued)

Fig. 14 C (2)

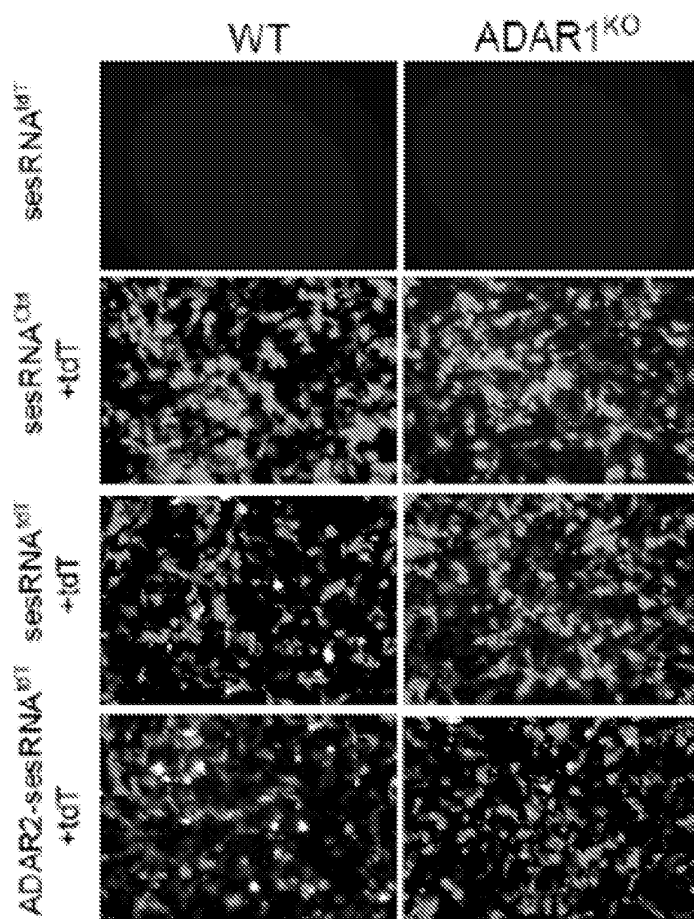


Fig. 14 (continued)

Fig. 14 D (1)

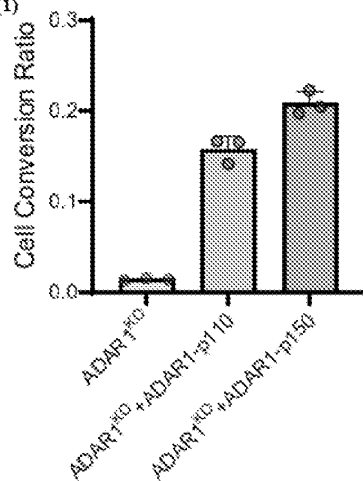


Fig. 14 D (2)

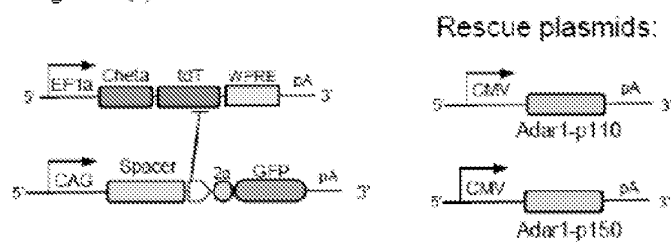


Fig. 14 E

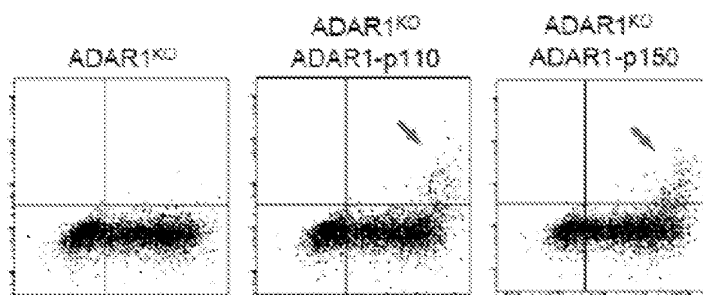


Fig. 14 (continued)

Fig. 14 F (1)

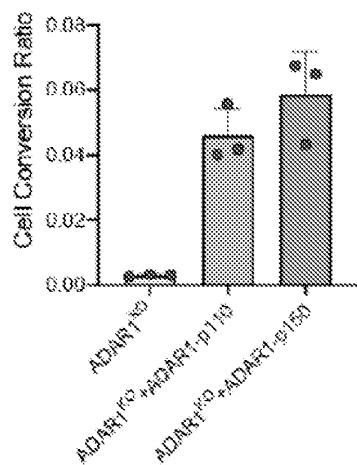


Fig. 14 F (2)

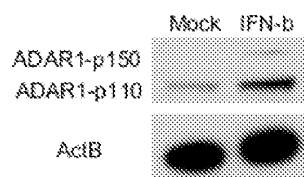


Fig. 14 G

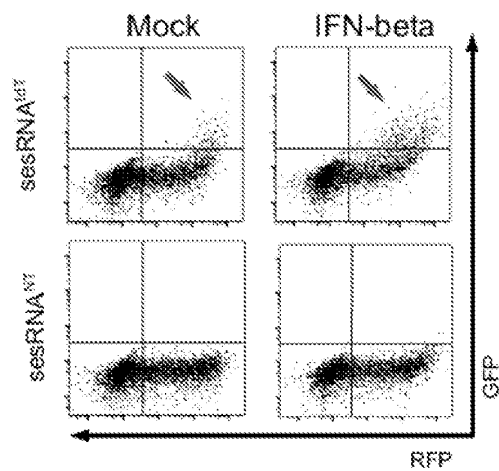


Fig. 14 (continued)

Fig. 14 H

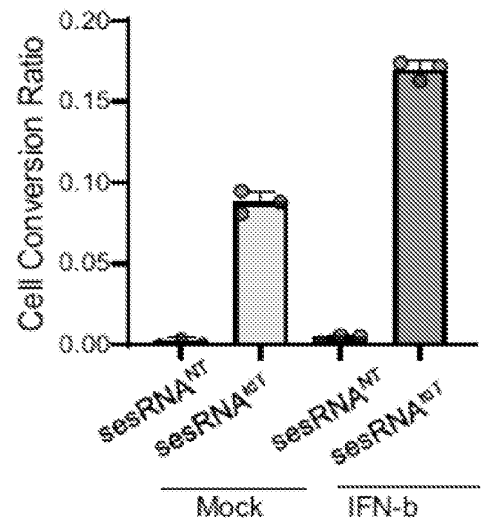


Fig. 15 Interferon-beta increased CellREADR Efficiency and Adar expression

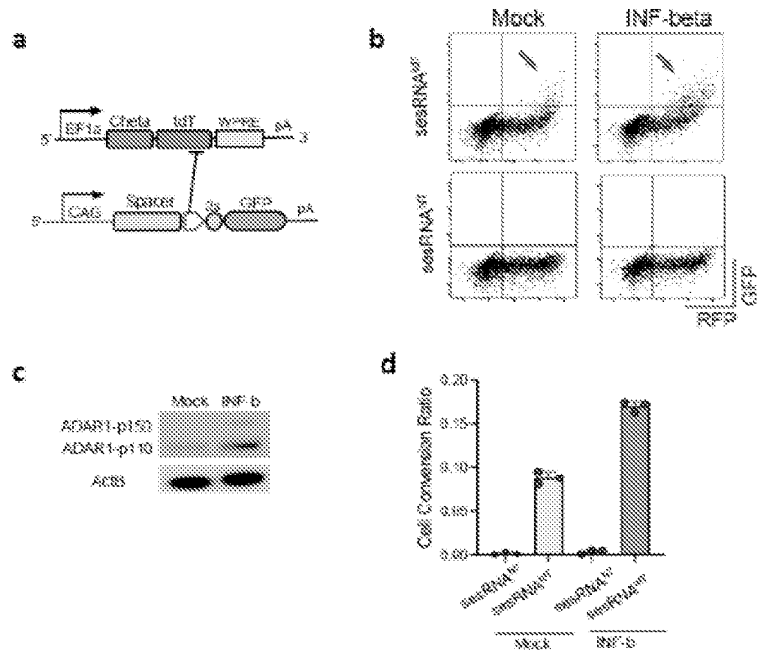


Fig. 16 CellREADR operates in multiple human and mouse cell lines

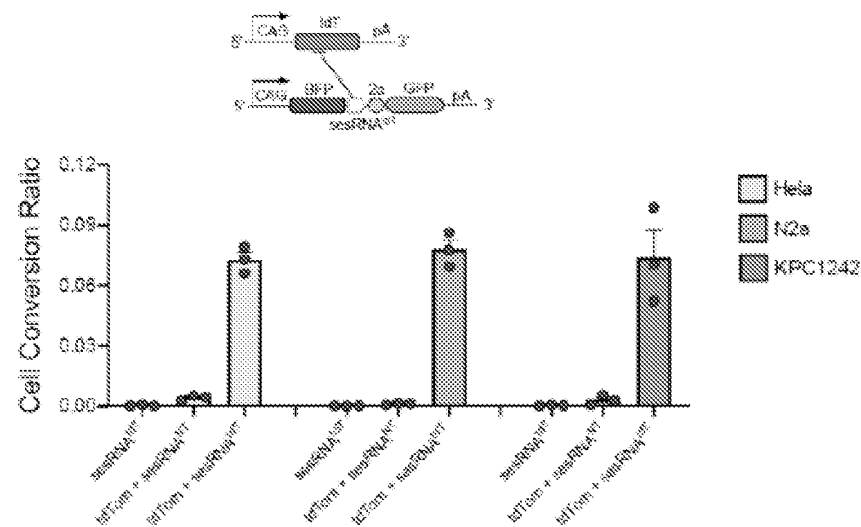


Fig. 17 Effects of different mismatch types

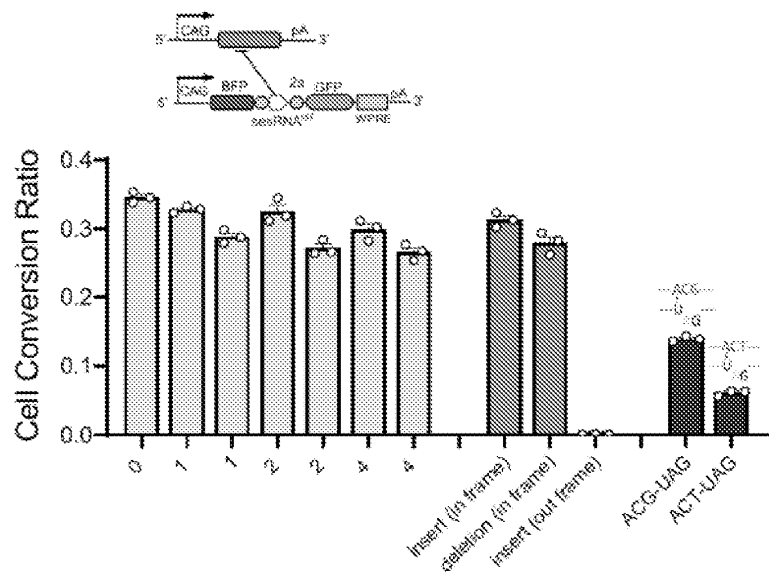


Fig. 18 Time dependent CellREADR editing

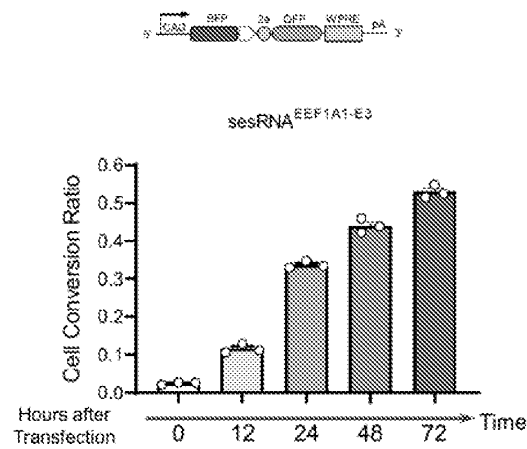


Fig. 19

Effects of CellREADR on targeted mRNA

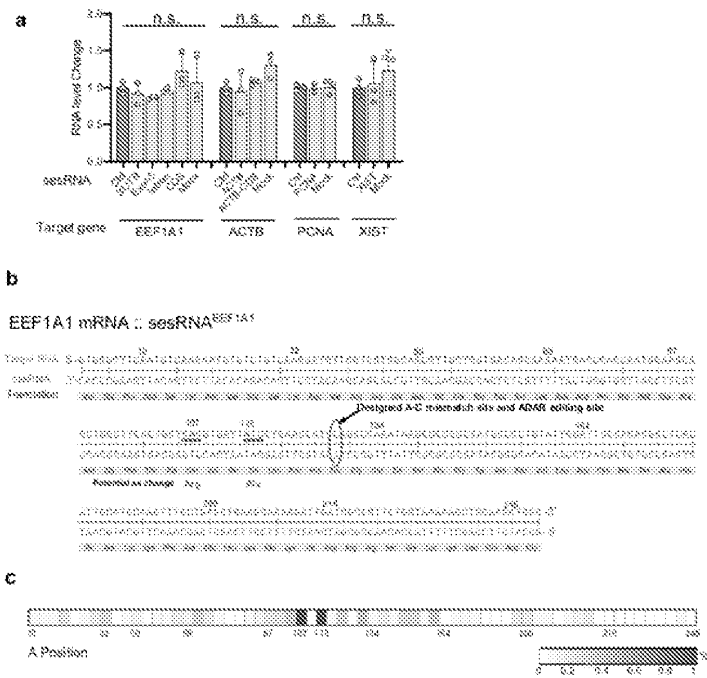


Fig. 20 Differential gene expression

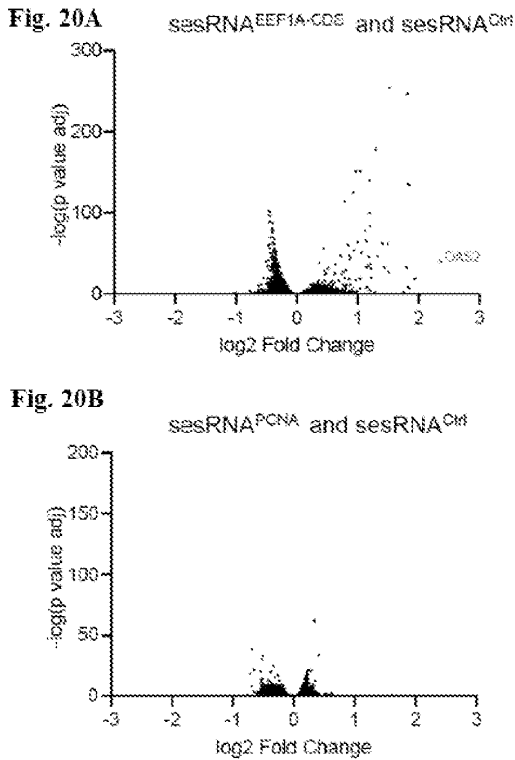
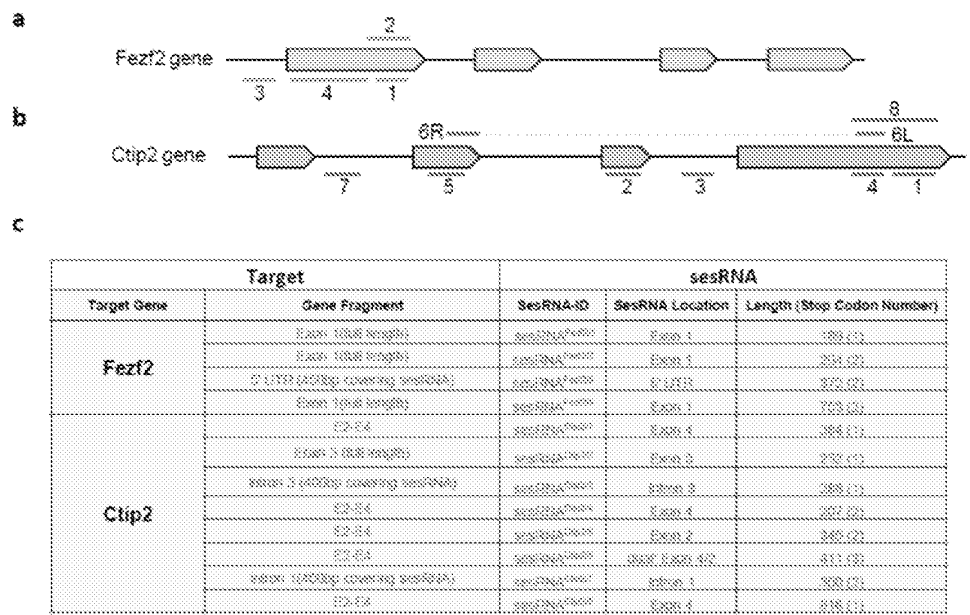


Fig. 21. Design and screen of *sesRNAs* targeting *Fezf2* and *Ctip2* RNAs *in vitro* and *in vivo*.



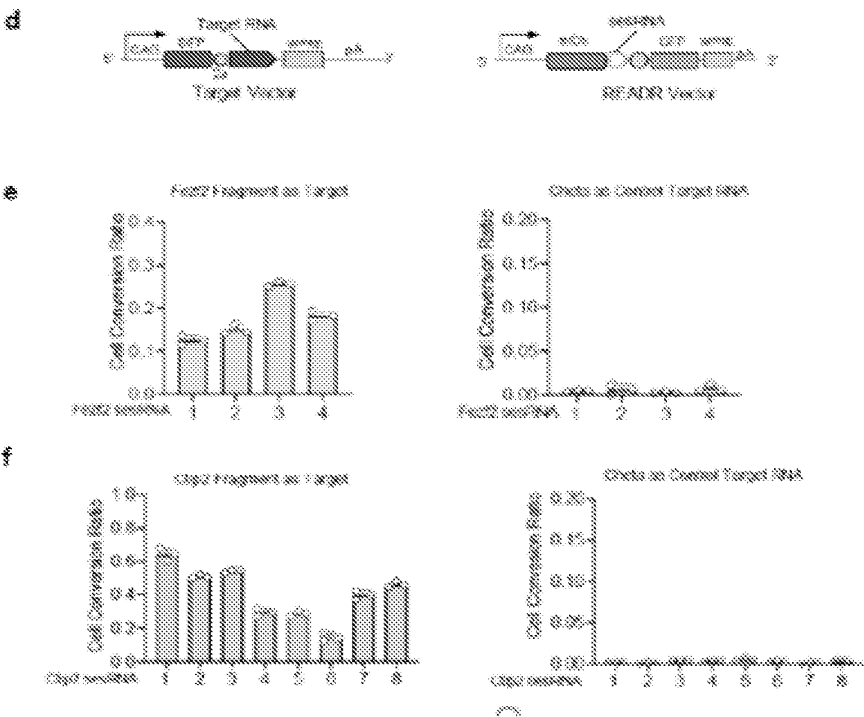


Fig. 21 (Continued)

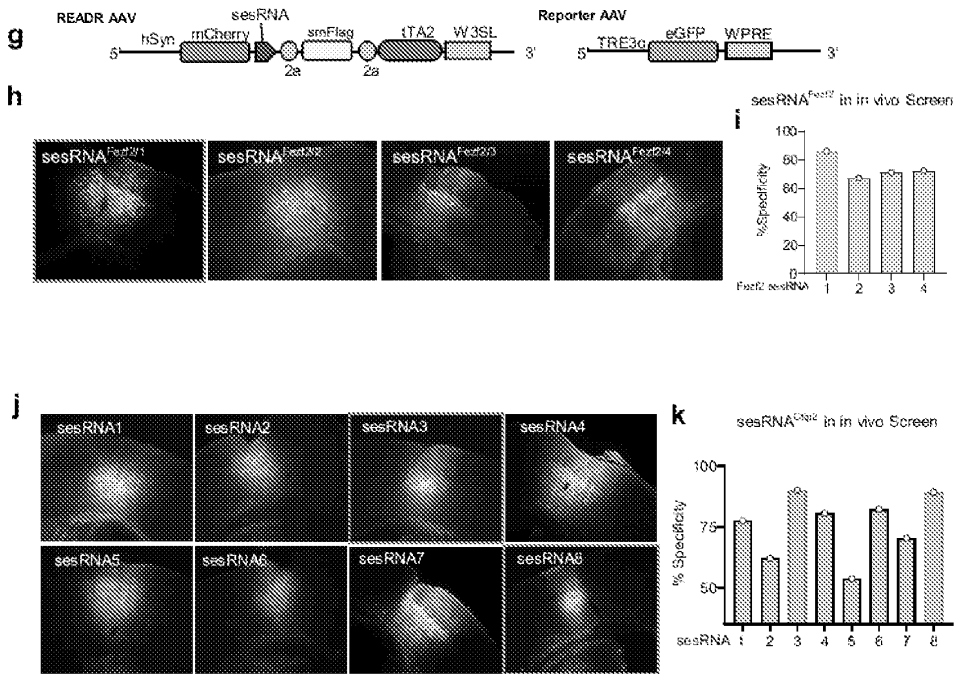


Fig. 22A

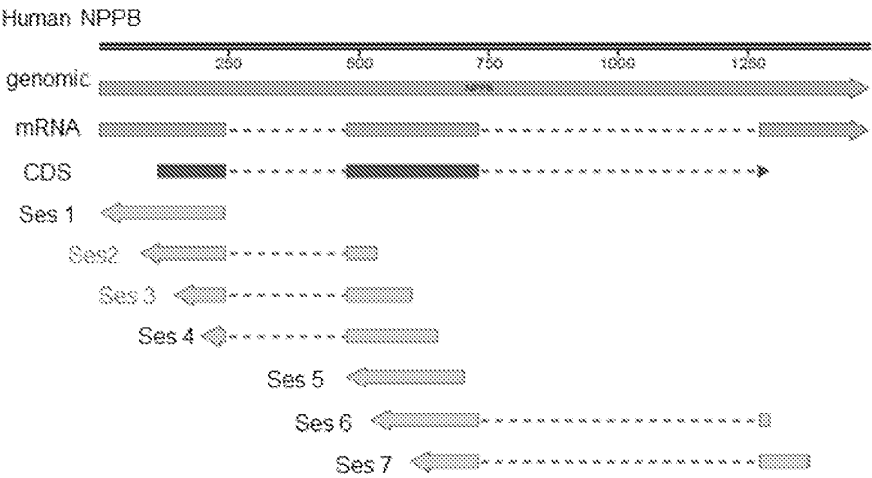


Fig. 22B

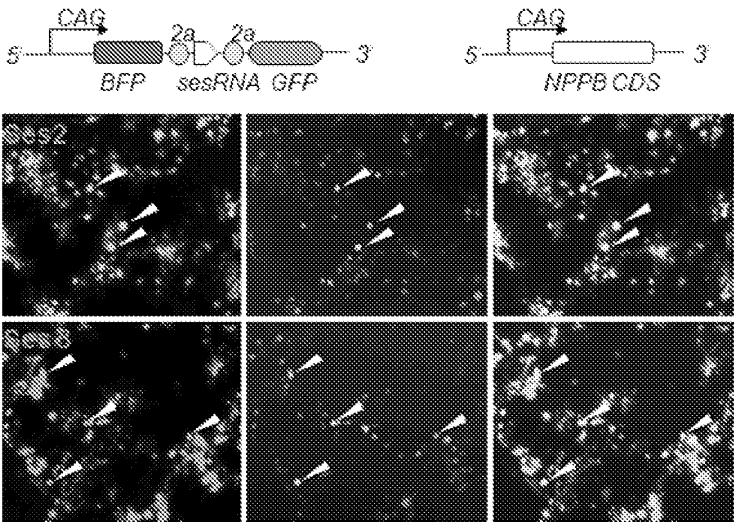


Fig. 22C

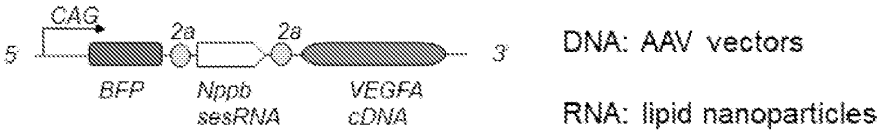


Fig. 23A

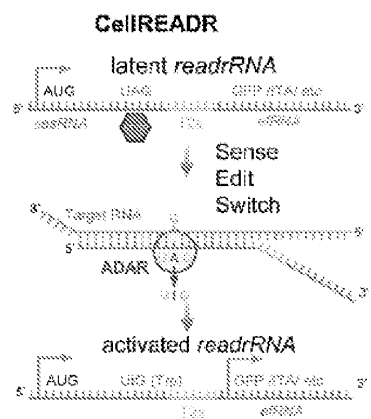


Fig. 23B

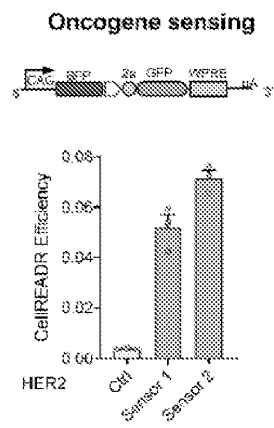


Fig. 23C

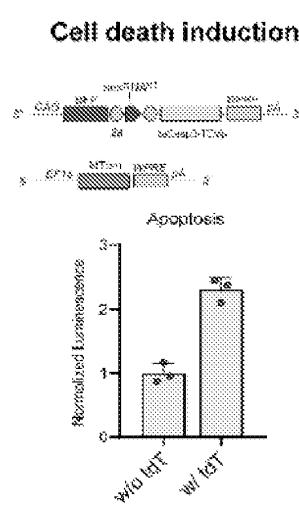


Fig. 24

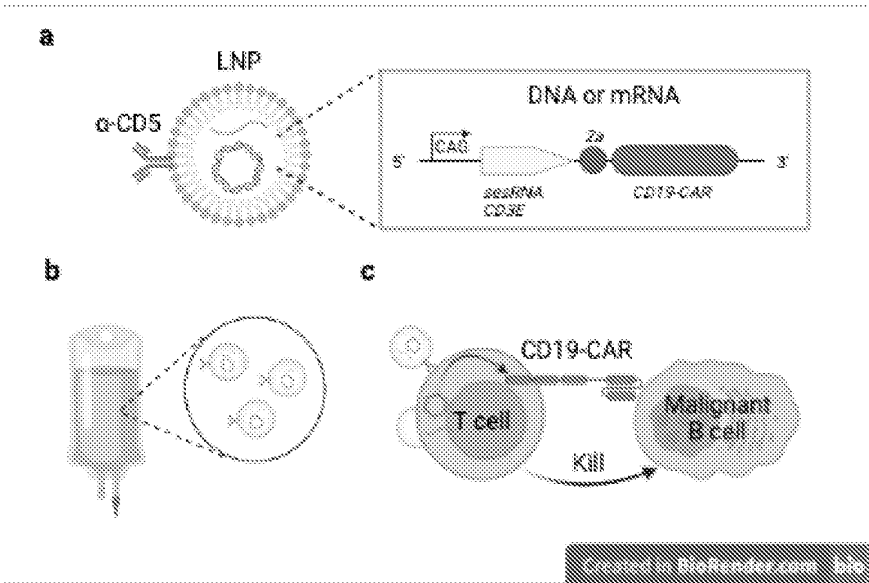


FIG. 25A

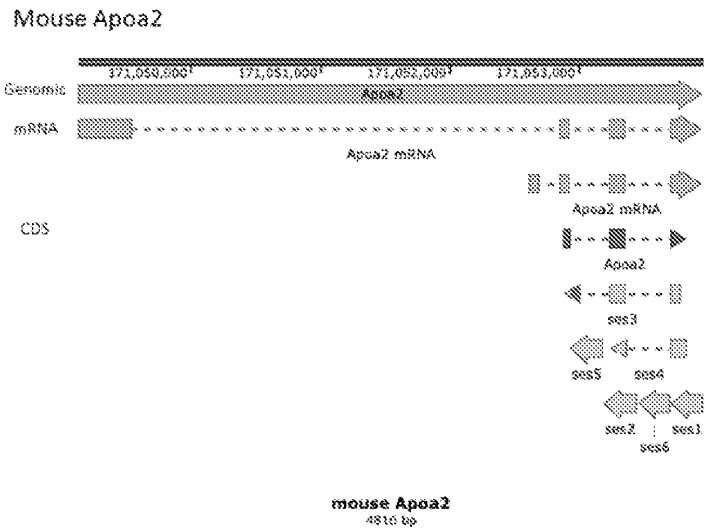


FIG. 25B

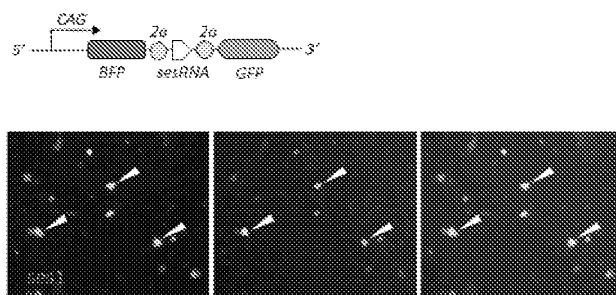


FIG. 25C

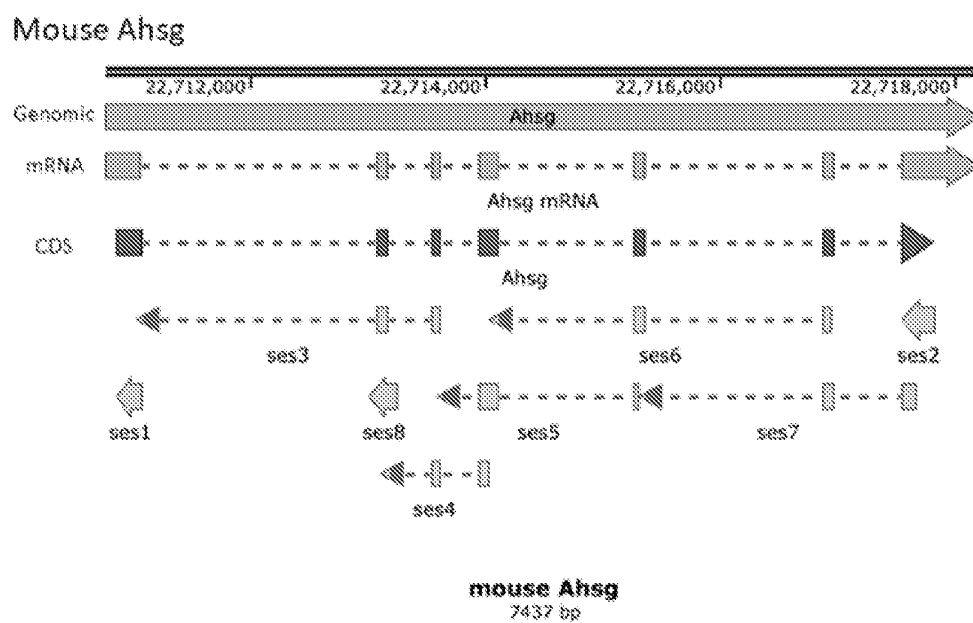


FIG. 25D

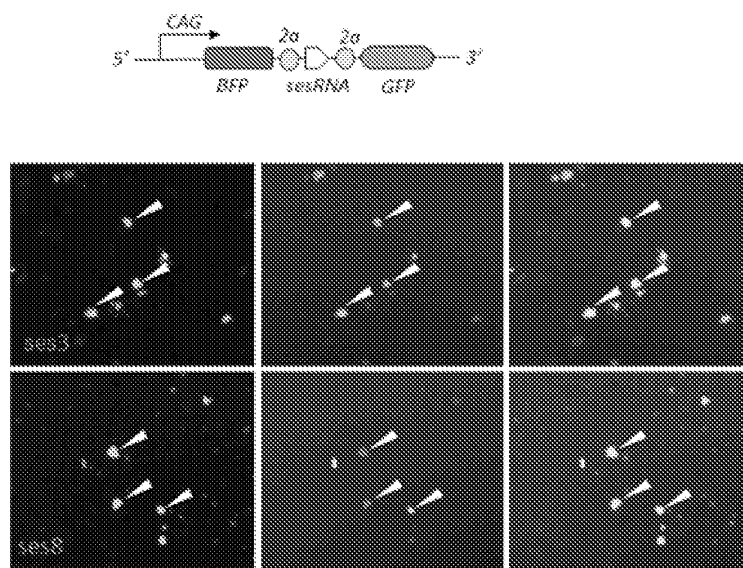


FIG. 25E

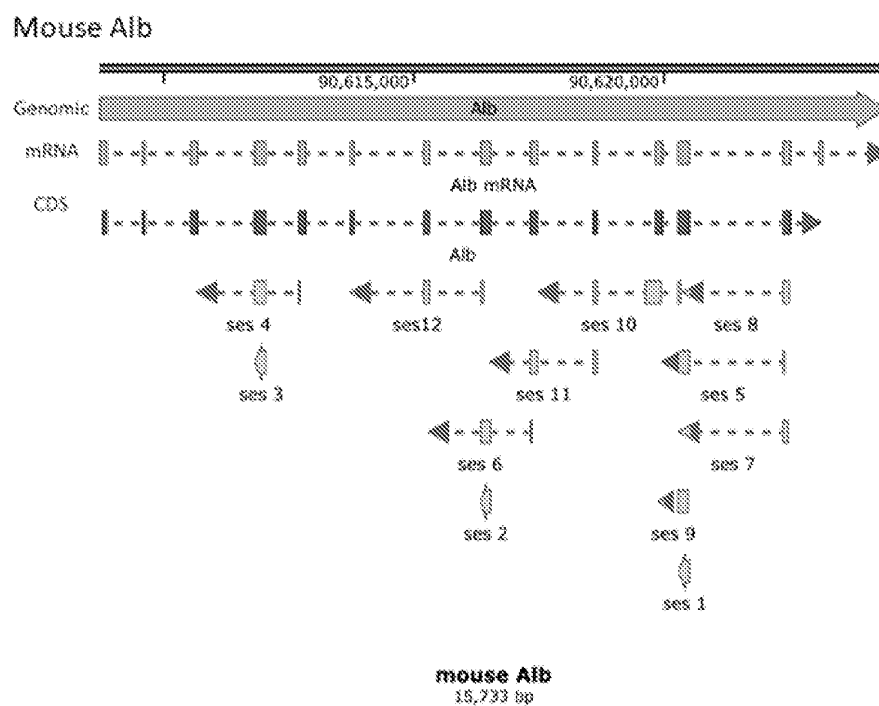


Fig. 25F

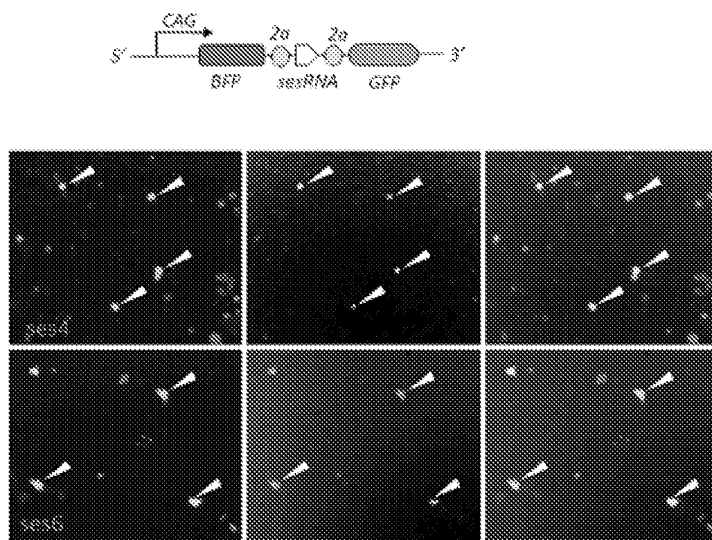


Fig. 25G

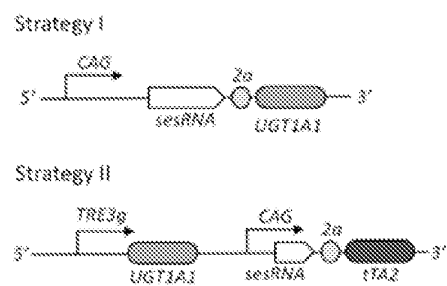


FIG. 26A



FIG. 26B

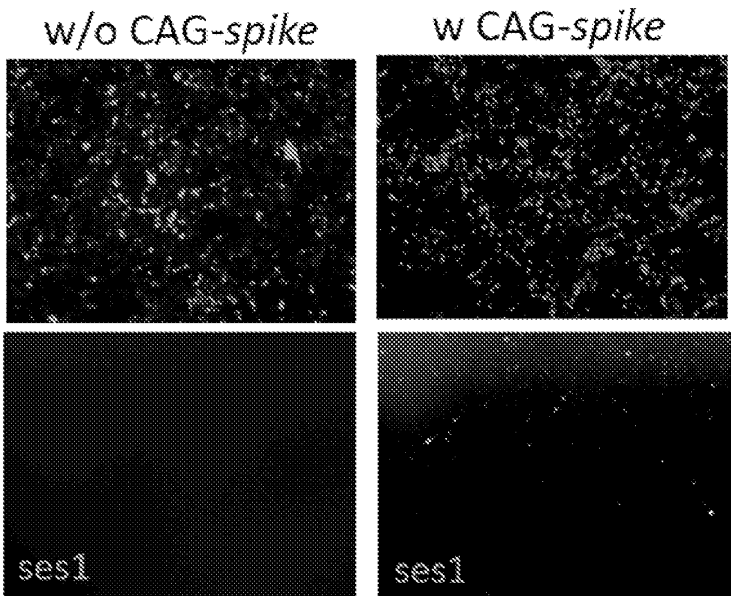


FIG. 27A

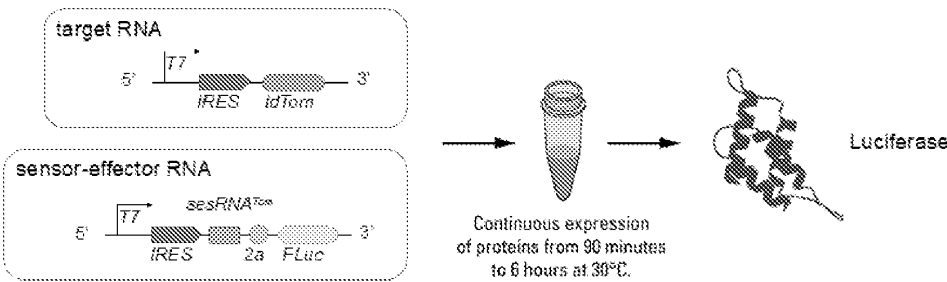


FIG. 27B

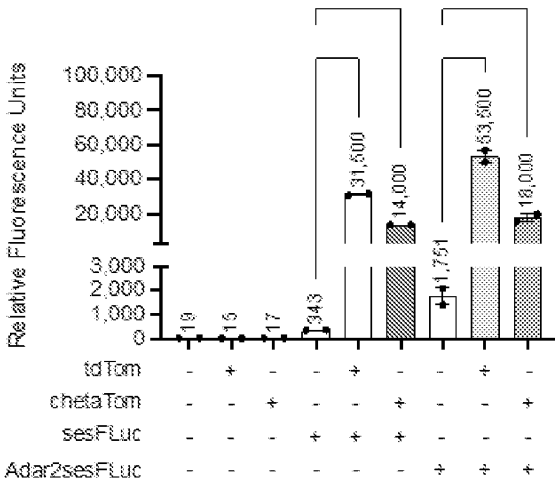


FIG. 27C

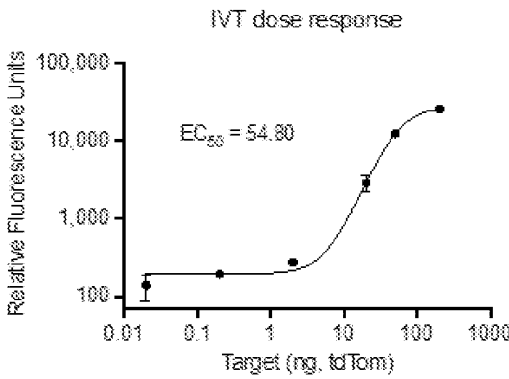


Fig. 27D

