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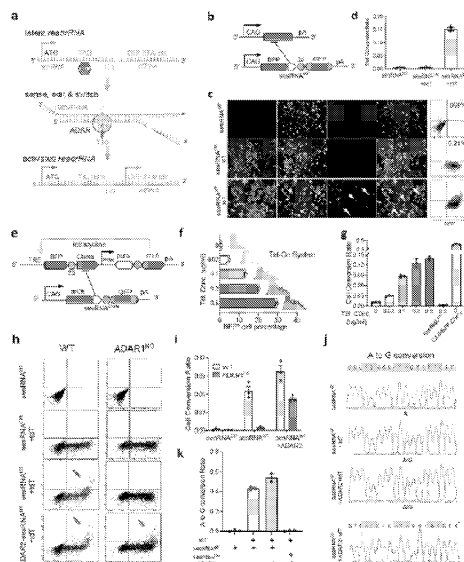
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(54) Title: COMPOSITIONS AND SYSTEMS FOR RNA-PROGRAMABLE CELL EDITING AND METHODS OF MAKING AND USING SAME

Fig. 1



(57) Abstract: A readrRNA (RNA sensing by Endogenous ADAR) molecule is a modular RNA molecule that facilitates sensing and detection of a cell type or cell status of a cell, including a cell of a mammalian nervous system, such as a neuronal or non-neuronal cell of the mammalian central and/or peripheral nervous system, and/or facilitates delivery of an effector protein to the selected cell. A composition that includes such a modular RNA molecule and another nucleic acid (linked or unlinked to the modular RNA molecule) is a CellREADR (Cell access through RNA sensing by Endogenous ADAR). CellREADR senses the presence of a selected cell RNA in a cell of a mammalian nervous system via readrRNA and leverages RNA editing mediated by ADAR (adenosine deaminase acting on RNA) for coupling the detection of a cell-defining RNA with translation of one or more effector proteins in a cell of a mammalian nervous system.

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