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(54) Title: URACIL STABILIZING PROTEINS AND ACTIVE FRAGMENTS AND VARIANTS THEREOF AND METHODS OF USE

(57) Abstract: Compositions and methods comprising uracil stabilizing polypeptides for targeted editing of nucleic acids are provided. Compositions comprise uracil stabilizing polypeptides. Also provided are fusion proteins comprising i) a DNA-binding polypeptide; ii) a deaminase; and iii) a uracil stabilizing polypeptide (USP). The fusion proteins include RNA-guided nucleases fused to deaminases and further fused to a USP, optionally in complex with guide RNAs. Compositions also include nucleic acid molecules encoding the USPs or the fusion proteins. Vectors and host cells comprising the nucleic acid molecules encoding the USPs or the fusion proteins are also provided.



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