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(54) Title: TYPE VI-E AND TYPE VI-F CRISPR-CAS SYSTEM AND USES THEREOF

(57) Abstract: Provided are novel CRISPR/Cas compositions and uses thereof for targeting nucleic acids. In particular, provided are non-naturally occurring or engineered RNA-targeting systems comprising a novel RNA-targeting Cas13e or Cas13f effector protein, and at least one targeting nucleic acid component such as a guide RNA (gRNA) or crRNA. The novel Cas effector proteins are among the smallest of the known Cas effector proteins, at about 800 amino acids in size, and are thus uniquely suitable for delivery using vectors of small capacity, such as an AAV vector.

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