ABSTRACT

RNA-GUIDED GENE DRIVES

RNA guided Cas9 gene drives and method for their use are disclosed. Embodiments of the present disclosure are based on the use of RNA guided DNA binding proteins to co-localize with guide RNA at a target DNA site and act as gene drives. DNA binding proteins included within the scope of the present disclosure include those which may be guided by RNA, referred to herein as guide RNA. DNA binding include naturally occurring DNA binding proteins having nuclease activity, such as Cas9 proteins. According to one aspect, the enzyme of the present disclosure, such as Cas9 unwinds the DNA duplex and searches for sequences matching the crRNA to cleave.

FIG. 1