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(54) Title: RNA-GUIDED CAS Ω NUCLEASES AND USES THEREOF IN DIAGNOSTICS AND THERAPY

(57) Abstract: The present invention relates to methods for RNA-directed cleaving of a nucleic acid molecule selected from dsDNA, ssDNA, and RNA based on a complex comprising a Cas Ω nuclease and at least one pre-selected guide RNA designed for binding to at least one target RNA. Further provided is the complex of the present invention bound to a target RNA molecule, as well as respective systems for cleaving of a nucleic acid molecule, and diagnostic and therapeutic uses thereof.

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