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(54) Title: HTT TRANS-SPLICING MOLECULES

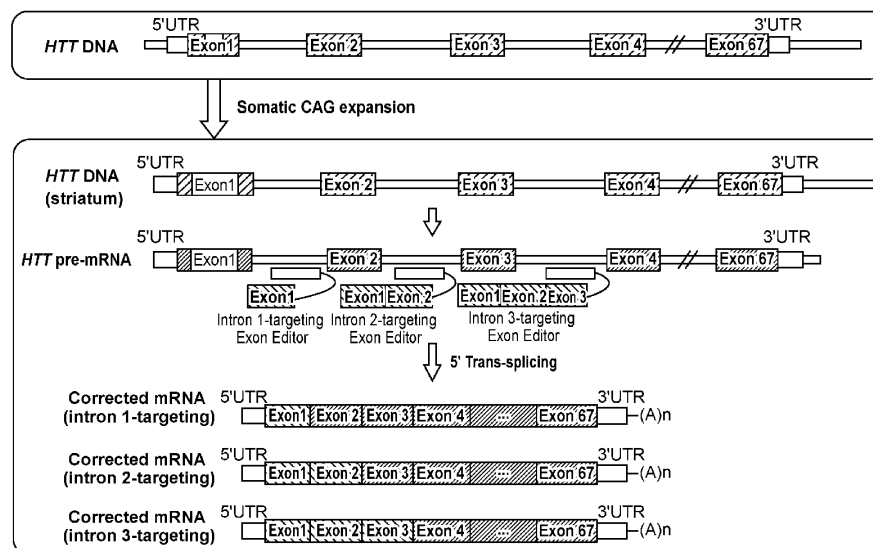


FIG. 3

(57) **Abstract:** HTT nucleic acid trans-splicing molecules are described, which include a coding domain comprising one or more *HTT* exons, a splice site, and a binding domain that binds a target intron of a *HTT* pre-mRNA. HTT nucleic acid trans-splicing molecules described herein may also be used in combination with, e.g., MSH3 binding domains arranged in tandem with an HTT binding domain, MSH3 nucleic acid trans-splicing molecules, *MSH3* splice modulators, anti-sense oligonucleotides or anti-sense RNA to either of *MSH3* or *HTT* and *MSH3* or *HTT* microRNA (miRNA) and constructs encoding same. Compositions comprising nucleic acid trans-splicing molecules described herein are also encompassed, as are compositions comprising combinations of nucleic acid trans-splicing molecules with additional therapeutic agents (e.g., *MSH3* nucleic acid trans-splicing molecules, *MSH3* splice modulators, anti-sense oligonucleotides or anti-sense RNA to either of *MSH3* or *HTT*). Nucleic acid trans-splicing molecules may be used alone or in com-

[Continued on next page]

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ination with additional therapeutic agents in methods for treating Huntington's Disease (HD). Nucleic acid trans-splicing molecules are also described herein for use, alone or in combination with additional therapeutic agents, in treating HD or in the preparation of medicaments for treating HD. Also encompassed herein are MSH3 nucleic acid trans-splicing molecules, MSH3 splice modulators, and MSH3 miRNA and constructs encoding same which may be used alone or in combination and/or in combination with additional therapeutics for treating nucleotide repeat disorders (e.g., HD) or in the preparation of medicaments for treating nucleotide repeat disorders (e.g., HD).