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New claims 1-25

1. Isolated double-stranded RNA molecule, wherein each RNA strand has a length from 19 to 23 nucleotides and wherein at least one strand has a 3'-overhang from 1 to 3 nucleotides, wherein said RNA molecule is capable of target-specific RNA interference.
2. The RNA molecule of claim 1, wherein each strand has a length from 20 to 22 nucleotides.
3. The RNA molecule of any one of claims 1 or 2, wherein the 3'-overhang is stabilized against degradation.
4. The RNA molecule of any one of claims 1 to 3, which contains at least one modified nucleotide analogue.
5. The RNA molecule of claim 4, wherein the modified nucleotide analogue is selected from sugar- or backbone-modified ribonucleotides.
6. The RNA molecule according to claim 4 or 5, wherein the nucleotide analogue is a sugar-modified ribonucleotide, wherein the 2'-OH group is replaced by a group selected from H, OR, R, halo, SH, SR, NH₂, NHR, NR₂ or CN, wherein R is Ci-C₆ alkyl, alkenyl or alkynyl and halo is F, Cl, Br or I.
7. The RNA molecule of claim 4 or 5, wherein the nucleotide analogue is a backbone-modified ribonucleotide containing a phosphothioate group.

8. The RNA molecule of any one of claims 1-7, which has a sequence having an identity of at least 70 percent to a predetermined mRNA target molecule,
9. A method of preparing a double-stranded RNA molecule of any one of claims 1 to 8, comprising the steps:
 - (a) synthesizing two RNA strands each having a length from 19 to 23 nucleotides and at least one having a 3'-overhang from 1 to 3 nucleotides, wherein said RNA strands are capable of forming a double-stranded RNA molecule,
 - (b) combining the synthesized RNA strands under conditions, wherein a double-stranded RNA molecule is formed, which is capable of target-specific RNA interference.
10. The method of claim 9, wherein the RNA strands are chemically synthesized.
11. The method of claim 9, wherein the RNA strands are enzymatically synthesized.
12. An in vitro method of mediating target-specific RNA interferences in a cell or an organism, comprising the steps:
 - (a) contacting said cell or organism with the double-stranded RNA molecule of any one of claims 1 to 8 under conditions wherein target-specific RNA interferences can occur, and
 - (b) mediating a target-specific RNA interference effected by the double-stranded RNA towards a target nucleic acid having a sequence portion substantially corresponding to the double-stranded RNA.
13. The method of claim 12, wherein said contacting comprises introducing said double-stranded RNA molecule into a target cell in which the target-specific RNA interference can occur.

14. The method of claim 13, wherein the introducing comprises a carrier mediated delivery or injection.
15. Use of the in vitro method of any one of claims 12 to 14 for determining the function of a gene in a cell or an organism.
16. Use of the in vitro method of any one of claims 12 to 14 for modulating the function of a gene in a cell or an organism.
17. The use of claim 15 or 16, wherein the gene is associated with a pathological condition.
18. The use of a double-stranded RNA molecule of any of the claims 1-8 for the manufacture of a medicament for modulating the function of a pathogen-associated gene.
19. The use of claim 18, wherein the pathogen-associated gene is a viral gene.
20. The use of a double-stranded RNA molecule of any of the claims 1-8 for the manufacture of a medicament for modulating the function of a tumor-associated gene.
21. The use of a double-stranded RNA molecule of any of the claims 1-8 for the manufacture of a medicament for modulating the function of an autoimmune disease associated gene.
22. Pharmaceutical composition containing as an active agent at least one double-stranded RNA molecule of any one of claims 1 to 8 and a pharmaceutical carrier.
23. The composition of claim 22 for diagnostic applications.

24. The composition of claim 22 for therapeutic applications.

25. An eukaryotic cell or an eukaryotic non-human organism transfected with a RNA molecule of any one of claims 1 to 8 or a DNA molecule encoding said RNA molecule.