Claims

1. A composition comprising a nucleic acid molecule and a buffer, and having the following features:
(a) being in the form of a solution at ambient temperature; and
(b) a content of the nucleic acid molecule after storage at 25°C, relative humidity 60% for 4 weeks, of not less than 80% relative to the content at the time of start of the storage, wherein
the buffer adjusts the pH of the composition to not less than 4.0 and not more than 11.0,
the nucleic acid molecule has a concentration of 0.1 - 10 mg/mL,
the nucleic acid molecule has a nucleotide number of 20 - 80 nucleotides,
the nucleic acid molecule is
(1) a single-stranded nucleic acid molecule having a region (X), a linker region (Lx) and a region (Xc), wherein
the linker region (Lx) is linked between the region (X) and the region (Xc),
the region (Xc) is complementary to the region (X),
at least one of the region (X) and the region (Xc) contains a sequence that controls the expression of the target gene, and the linker region (Lx) contains an amino acid residue, a polyamine residue, a polycarboxylic acid residue, or a non-nucleotide structure containing at least one of a pyrrolidine skeleton and a piperidine skeleton, or
(2) a single-stranded nucleic acid molecule comprising, from the 5'-side to the 3'-side, a 5'-side region (Xc), a linker region (Lx), an inner region (Z), a linker region (Ly), and a 3'-side region (Yc) in this order, wherein
the inner region (Z) is constituted by linkage of an inner 5'-side region (X) and an inner 3'-side region (Y),
the 5'-side region (Xc) is complementary to the inner 5'-side region (X),
the 3'-side region (Yc) is complementary to the inner 3'-side region (Y),
at least one of the inner region (Z), the 5'-side region

(Xc) and the 3'-side region (Yc) comprises a sequence that controls expression of the target gene, and
the linker region (Lx) and the linker region (Ly) each comprises a nucleotide residue, an amino acid residue, a polyamine residue, a polycarboxylic acid residue, or a non-nucleotide structure containing a pyrrolidine skeleton or a piperidine skeleton.

2. The composition according to claim 1, wherein the content of the nucleic acid molecule after storage at 40°C, relative humidity 75% for 4 weeks is not less than 80% relative to the content at the time of start of the storage, and
the buffer adjusts the pH of the composition to not less than 4.0 and not more than 10.0.

3. The composition according to claim 1 or 2, wherein the content of the nucleic acid molecule after storage at 60°C for 4 weeks is not less than 60% relative to the content at the time of start of the storage, the buffer adjusts the pH of the composition to not less than 5.0 and not more than 8.0, and
the nucleotide number of the nucleic acid molecule is 48 - 62.

4. The composition according to claim 1 or 2, wherein the buffer adjusts the pH of the composition to not less than 4.0 and not more than 9.0.

5. The composition according to any one of claims 1 to 3, wherein the buffer adjusts the pH of the composition to not less than 5.5 and not more than 7.5.

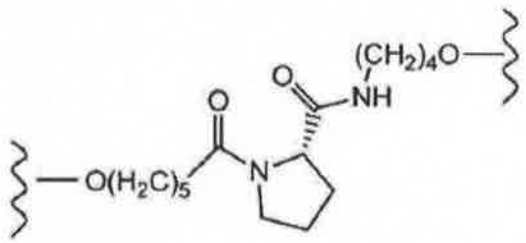
6. The composition according to any one of claims 1 to 3, wherein the buffer adjusts the pH of the composition to not less than 6.0 and not more than 7.0.

7. The composition according to any one of claims 1 to 6, wherein the buffer comprises one or more buffering agents

selected from sodium hydrogen phosphate, sodium dihydrogen phosphate, disodium hydrogen phosphate, sodium chloride, arginine hydrochloride, sodium citrate, trisodium citrate dihydrate, monosodium L-glutamate, sodium acetate, sodium carbonate, sodium hydrogen carbonate, sodium lactate, monopotassium phosphate, sodium hydroxide, meglumine, glycine, citric acid, and acetic acid.

8. The composition according to any one of claims 1 to 7, wherein the buffer comprises citric acid and/or phosphoric acid.

9. The composition according to any one of claims 1 to 8, wherein the non-nucleotide structure is represented by the following formula



10. The composition according to any one of claims 1 to 8, wherein when the linker region (Lx) and the linker region (Ly) are nucleotide residues, the base sequence of the nucleotide residue is CCACACC or UUCG, respectively.

11. The composition according to any one of claims 1 to 10, wherein the nucleic acid molecule is a DNA molecule, an RNA molecule, or a chimeric nucleic acid molecule of DNA and RNA.

12. The composition according to claim 1 or 2, wherein the nucleotide number of said nucleic acid molecule is 48 - 62.

13. The composition according to any one of claims 1 to 12, which is a pharmaceutical composition.

14. A method of producing the composition according to any one of claims 1 to 12, comprising dissolving said nucleic acid molecule in a buffer adjusting a pH of the composition to not less than 6.0 and not more than 7.0, and storing the solution at ambient temperature.

15. A method for stabilizing a nucleic acid molecule in the composition according to any one of claims 1 to 12, comprising dissolving the nucleic acid molecule in a buffer adjusting a pH of the composition to not less than 6.0 and not more than 7.0, and storing the solution at ambient temperature.

16. The method according to claim 14 or 15, wherein the buffer comprises citric acid and/or phosphoric acid.

17. The method according to any one of claims 14 to 16, wherein the composition is a pharmaceutical composition.