CLAIMS

1. A modulator of the function of a toxic disease-inducing RNA, wherein the RNA comprises expanded repeat sequences, the modulator comprising an RNA-binding oligomer that is formed *in situ* within a living cell from a condensation reaction of a cell-permeable RNA expanded repeat sequence binding module, wherein the cell-permeable module comprises both an alkyne and an azide moiety, or from a condensation of a pair of cell-permeable RNA expanded repeat sequence binding modules, wherein a first module comprises an alkyne moiety and a second module comprises an azide moiety, the condensation reaction taking place between the RNA expanded repeat bound modules via an a 1,3 Huisgen dipolar cyclo-addition reaction between the alkyne and azide moieties.

2. The modulator of claim 1, wherein the toxic RNA comprises adjacent internal loops formed by RNA expanded repeat sequences r(CCUG)^{exp}.

3. The modulator of claim 2, wherein each cell-permeable module comprises a modified kanamycin moiety.

4. The modulator of claim 3, wherein the cell-permeable module is **N_3-K-Ak**, or **N_3-K-AaK**, or a pair of cell-permeable modules used together are **N_3-K** and **K-Ak**.

5. The modulator of any one of claims 2-4 for treatment of myotonic dystrophy type 2 (DM2).

6. A method of forming the modulator of claim 2 bound to the toxic RNA, comprising exposing the living cell comprising the toxic RNA to a cell-permeable RNA expanded repeat sequence binding module, wherein the cell-permeable module comprises both an alkyne and an azide moiety, or to a pair of cell-permeable RNA expanded repeat sequence binding modules, wherein a first module comprises an alkyne moiety and a second module comprises an azide moiety.

7. The modulator of claim 1, wherein the toxic RNA comprises adjacent internal loops formed by RNA expanded repeat r(CUG)^{exp}.

8. The modulator of claim 7, wherein each cell-permeable module comprises a bisheteroaryl moiety, preferably a bis-benzimidazole moiety

9. The modulator of claim 8, wherein the cell permeable module is **N_3-2H-K4NMeS-Aak**.

10. The modulator of any one of claims 7-9, for treatment of myotonic dystrophy type 1 (DM1).

11. A method of forming the modulator of claim 8 bound to the toxic RNA, comprising exposing the living cell comprising the toxic RNA to a cell-permeable RNA expanded repeat sequence binding module, wherein the cell-permeable module comprises both an alkyne and an azide moiety, or to a pair of cell-permeable RNA expanded repeat sequence binding modules, wherein a first module comprises an alkyne moiety and a second module comprises an azide moiety.

12. The modulator comprising a modulator of any one of claims 1-4 or 7-9 further comprising a nucleic acid cleaving moiety for use in cleaving a toxic disease-inducing RNA, wherein the RNA comprises expanded repeat sequences.

13. The modulator of claim 12, wherein the nucleic acid cleaving moiety is a derivative of bleomycin.

14. Use of a modulator of claim 1 in the manufacture of a medicament for the treatment of a disease in a patient wherein the disease is induced by the presence of a toxic RNA having expanded repeat sequences, wherein the disease is myotonic dystrophy type 2 (DM2), the toxic RNA comprises r(CCUG)^{exp} expanded repeat sequences, and the modulator is formed *in situ* from one cell-permeable module comprising a kanamycin derivative bearing an alkyne and an azide group, or a pair of cell-permeable modules, each comprising a kanamycin derivative, a first module bearing an alkyne group and a second module bearing an azide group.

15. Use of a modulator of claim 1 in the manufacture of a medicament for the treatment of a disease in a patient wherein the disease is induced by the presence of a toxic RNA having expanded repeat sequences, wherein the disease is myotonic dystrophy type 1 (DM1), the

toxic RNA comprises or r(CUG)^{exp} expanded repeat sequences, and the modulator is formed *in situ* from one cell-permeable module bearing an alkyne and an azide group, or a pair of cell-permeable modules each comprising a bis-benzimidazole derivative, a first module bearing an alkyne group and a second module bearing an azide group.

16. The use of claim 14 or 15, wherein the modulator further comprises a nucleic acid cleaving moiety.