CLAIMS

1. A vector for generating a circular RNA, the vector comprising the following elements operably connected to each other and arranged in the following sequence:
   a) a 5’ Group I intron fragment,
   b) an internal ribosome entry site (IRES),
   c) a protein coding or noncoding region, and
   d) a 3’ Group I intron fragment,

   wherein a)-d) can be transcribed to form a precursor RNA wherein the 5’ and 3' Group I intron fragments in the precursor RNA back-splices such that the precursor RNA forms a circular RNA, and

   wherein the 5’ and 3' Group I intron fragments are from *Scytalidium dimidiatum (Sd)*, *Clostridium botulinum (Cb)*, *Scytonema hofmanii (Sh)*, *Geosmithia virida (Gv)*, *Penicillium oblatum (Po)* or *Barrmaelia oxyacanthae (Bo).*

2. A vector for generating a circular RNA, the vector comprising the following elements operably connected to each other and arranged in the following sequence:
   a) a 5’ Group I intron fragment,
   b) an internal ribosome entry site (IRES),
   c) a protein coding or noncoding region, and
   d) a 3’ Group I intron fragment,

   wherein a)-d) can be transcribed to form a precursor RNA wherein the 5’ and 3' Group I intron fragments in the precursor RNA back-splices such that the precursor RNA forms a circular RNA, and

   wherein the 5' Group I intron fragment comprise or consist of a nucleic acid sequence having at least 70% sequence identity to SEQ ID NO: 25 and the 3' Group I intron fragment comprise or consist of a nucleic acid sequence having at least 70% sequence identity to SEQ ID NO: 26.

3. The vector of claim 2, wherein the 5' Group I intron fragment comprise or consist of a nucleic acid sequence of SEQ ID NO: 25 and the 3' Group I intron fragment comprise or consist of a nucleic acid sequence of SEQ ID NO: 26.

4. The vector of any one of claims 1 to 3, wherein the vector further comprises at least one spacer domain.

5. The vector of any one of claims 1 or 4, wherein the 5' Group I intron fragment comprise or consist of a nucleic acid sequence having at least 70% sequence identity to SEQ ID NO: 5 and the 3' Group I intron fragment comprise or consist of a nucleic acid sequence having at least 70% sequence identity to SEQ ID NO: 6.

6. The vector of any one of claims 1 to 5, wherein the IRES is an IRES sequence from viral CVB3, human SAT1, human HK1, viral RhPV, human eIF4G1, viral HCV, viral HalIV or circIRES9128.

7. The vector of any one of claims 1 to 6, wherein the protein coding region is more than 1kb in size.

8. The vector of any one of claims 1 to 7, wherein the protein coding region encodes an mRNA.

9. The vector of any one of claims 1 to 8, wherein the protein coding region encodes a viral protein.

10. The vector of any one of claims 1 to 9, wherein the vector further comprises an RNA polymerase positioned upstream of the 5’ Group I intron fragment.

11. The vector of claim 10, wherein the RNA polymerase promoter is an RNA polymerase promotor from T7 virus, T6 virus, SP6 virus, T3 virus, or T4 virus.

12. A method of generating circular RNA from a precursor RNA transcribed from a vector of any one of claims 1 to 11, the method comprising incubating the precursor RNA in the presence of a buffer and Mg^{2+} to generate circular RNA from the precursor RNA.

13. The method of claim 12, wherein the method further comprises purifying the circular RNA.