What is claimed is:

1. An isolate peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOS: 1, 15-17, 18, 22, 25, 31, 35, 60, 63, 64, 66, 68, 75, 81, 85-110, 113, 114, and 116.

2. The peptide of claim 1, wherein the amino acid sequence is a fusion peptide.

3. The peptide of claim 2, wherein the amino acid sequence is fused to a cell penetrating peptide or an endosomal release sequence.

4. The peptide of claim 3, wherein the cell penetrating peptide or the endosomal release sequence is selected from the group consisting of SEQ ID NOS: 118-137 or 140-159.

5. The peptide of claim 3, wherein a linker connects the amino acid sequence to the cell penetrating peptide or the endosomal release sequence.

6. The peptide of claim 5, wherein the linker is selected from the group consisting of SEQ ID NOS: 138, 139, 160, and 161.

7. The peptide of claim 3, wherein the cell penetrating peptide or the endosomal release sequence is fused to the amino acid sequence at an N- or a C-terminus.

8. The peptide of claim 7, wherein the fusion peptide is cyclized.

9. The peptide of claim 2, wherein the fusion peptide consists of an amino acid sequence selected from the group consisting of SEQ ID NOS: 2 and 4-14.

10. A method for in vivo inhibition of REST activity, the method comprising the step of contacting the peptide of claim 1 with CTDSP1.

11. A pharmaceutical composition comprising the peptide of claim 1.

12. The composition of claim 11, wherein the peptide is contained in an oral solution, a caplet, a capsule, an injectable, an infusible, a suppository, a lozenge, a tablet, a cream, a salve, or an inhalant.

13. The composition of claim 11, further comprising an excipient.