

Claims

1. A nucleic acid comprising a sequence having at least 95% identity with SEQ ID NO: 1, wherein the nucleic acid sequence encodes for a protein comprising SEQ ID NO: 6 or a conservative variant thereof when expressed in an enterobacterial host cell.
2. An expression vector comprising the nucleic acid sequence of claim 1.
3. The nucleic acid of claim 1, wherein the nucleic acid sequence is incorporated into an expression vector to comprise a nucleic acid sequence having at least 95% identity with SEQ ID NO: 2.
4. A composition comprising the protein comprising SEQ ID NO: 6 or a conservative variant thereof, the protein prepared by expression of the nucleic acid sequence of claim 1 in an enterobacterial host cell, wherein the composition is free of a protein represented by SEQ ID NO: 6-Y136C.
5. A method for preparing a protein comprising SEQ ID NO: 6 or a conservative variant thereof, the method comprising:
 - introducing into an enterobacterial host cell a nucleic acid comprising a sequence comprising at least 95% identity with SEQ ID NO: 1,
 - culturing the enterobacterial host cell under conditions effective to produce the protein;
 - and
 - obtaining the protein from the enterobacterial host cell.
6. The method of claim 5, wherein the nucleic acid sequence is incorporated into an expression vector to comprise a nucleic acid sequence having at least 95% identity with SEQ ID NO: 2.
7. The method of claim 5, wherein the enterobacteria comprises *Escherichia Coli*.

8. The method of claim 5, wherein the method further comprises an acid precipitation step to purify the protein.
9. An enterobacterial host cell expressing the nucleic acid sequence of claim 1.
10. A modified enterobacterial host cell, the modified enterobacterial host cell expressing a heterologous nucleic acid comprising a sequence having at least 95% identity with SEQ ID NO: 1.
11. The modified enterobacterial host cell of claim 10, wherein the nucleic acid sequence encodes for a protein comprising SEQ ID NO: 6 or a conservative variant thereof when expressed in an enterobacterial host cell.
12. The modified enterobacterial host cell of claim 10, wherein the enterobacteria comprises *Escherichia Coli*.
13. The composition of claim 4, for use in the diagnosis of a synucleinopathy.
14. The composition of claim 4, when used as a substrate in an α -synuclein seed amplification assay.