Claims

1. An IL-2 mutant, wherein the IL-2 mutant has a single amino acid residue mutation in wild-type human IL-2: M39D.

2. An IL-2 mutant, wherein the IL-2 mutant has an amino acid residue mutation in wild-type human IL-2: M39D and has amino acid residue mutations optionally at one or more of the following positions corresponding to wild-type human IL-2: 49, 73 and 109.

3. A fusion protein or conjugate, comprising the IL-2 mutant of claim 1 or 2 and a non-IL-2 functional moiety.

4. A polynucleotide, encoding the IL-2 mutant of claim 1 or 2 or the fusion protein or conjugate of claim 3.

5. An expression vector, comprising the polynucleotide of claim 4.

6. A host cell, comprising the expression vector of claim 5, or having the polynucleotide of claim 4 integrated into the genome of the host cell.

7. A pharmaceutical composition, comprising the IL-2 mutant protein of claim 1 or 2 or the fusion protein or conjugate of claim 3 and a pharmaceutically acceptable excipient.

8. Use of the IL-2 mutant of claim 1 or 2 or the fusion protein of claim 3, for preparing a medicament for the treatment of a disease in which IL-2 is used for immunotherapy in an individual.