

The present invention provides soluble CTLA4 mutant molecules which bind with greater avidity to the CD80 and/or CD86 antigen than wild type CTLA4 or non-mutated CTLA4Ig. The soluble CTLA4 molecules have a first amino acid sequence comprising the extracellular domain of CTLA4, where certain amino acid residues within the S25-R33 region and M97-G107 region are mutated. The mutant molecules of the invention may also include a second amino acid sequence which increases the solubility of the mutant molecule.