Claims

1. Use of an IgG Fc multimer in the preparation of a medicament for the treatment of an immune complex-mediated kidney disorder, wherein the Fc multimer lacks any mutation to increase binding affinity of the Fc multimer to C1q, and

   wherein the lacking mutation is at least one of S267E, H268F, S324T, N297A, T299A, P238D, E233P, G236R, L234V, E233P, L234A, L235A, P238D, D265A, D265W, N297A, N297Q, T299A, and L328F in an IgG1 Fc domain of the Fc multimer.

2. The use according to claim 1, wherein the Fc multimer comprises two to six IgG Fc fusion monomers, wherein each Fc fusion monomer comprises two Fc fusion polypeptide chains, wherein each Fc fusion polypeptide chain comprises an IgG Fc polypeptide and a multimerization domain.

3. The use according to any one of claims 1-2, wherein the Fc multimerization domain does not include an IgG2 hinge.

4. The use according to any one of claims 1-3, wherein the Fc multimer is not a stradomer.

5. The use according to any of claims 1 to 4, wherein the Fc multimer comprises six human IgG1 Fc fusion monomers, wherein each Fc fusion monomer comprises two human Fc fusion polypeptide chains and each Fc fusion polypeptide chain comprises a human IgG1 Fc polypeptide and a human IgM tailpiece.

6. The use of claim 5, wherein the IgM tailpiece in each Fc fusion polypeptide chain comprises 18 amino acids fused with 232 amino acids at a C-terminus of a constant region of the IgG1 Fc polypeptide.

7. The use according to claim 5 or claim 6, wherein each IgG1 Fc polypeptide comprises a leucine to cysteine mutation at position 309.

8. The use according to claim 7, wherein the Fc fusion polypeptide chain comprises the sequence of SEQ ID NO:3.

9. The use according to claim 1, wherein the Fc multimer comprises four polypeptides that form three Fc monomers, wherein the first polypeptide comprises a first Fc polypeptide, a first linker, and a second Fc polypeptide, wherein the second polypeptide comprises a third Fc polypeptide, a second linker, and a fourth Fc polypeptide, wherein the third polypeptide comprises a fifth Fc polypeptide, wherein the fourth polypeptide comprises a sixth Fc polypeptide, wherein the first Fc polypeptide and the third Fc polypeptide form the first Fc monomer, wherein the fifth Fc polypeptide and the second Fc polypeptide form the second Fc monomer, and wherein the sixth Fc polypeptide and fourth Fc polypeptide form the third Fc monomer.

10. The use according to claim 9, wherein the first polypeptide and the second polypeptide are identical, and further wherein the third polypeptide and the forth polypeptide are identical.

11. The use according to claim 10, wherein the first polypeptide and the second polypeptide comprise SEQ ID NO:120 and the third polypeptide and the forth polypeptide comprise SEQ ID NO:119; or wherein the first polypeptide and the second polypeptide comprise SEQ ID NO:125 and the third polypeptide and the forth polypeptide comprise SEQ ID NO:124; or wherein the first polypeptide and the second polypeptide comprise SEQ ID NO:126 and the third polypeptide and the forth polypeptide comprise SEQ ID NO:122; or wherein the first polypeptide and the second polypeptide comprise SEQ ID NO:107 or SEQ ID NO:108, and the third polypeptide and the forth polypeptide comprise SEQ ID NO:113 or SEQ ID NO:114.

12. The use according to any one of claims 1-11, wherein the immune complex-mediated kidney disorder is one of nephritis, glomerulonephritis, interstitial nephritis, anti-glomerular basement membrane (anti-GBM) disease, Goodpasture syndrome, autoimmune kidney disease, lupus nephritis, membranous nephropathy, membranoproliferative glomerulonephritis (MPGN), or Bright's disease.

13. The use according to any one of claims 1-12, wherein the Fc multimer inhibits complement-dependent cytotoxicity and/or antibody-dependent cellular cytotoxicity.