CLAIMS

1. An *in vitro* method for production of a full-length bispecific antibody comprising the following steps:

a) incubating a first full-length antibody with a second full-length antibody under reducing conditions sufficient to allow reduction of the inter-chain disulfide bonds in the hinge region, and

wherein the CH3 region of said first full-length antibody is a first CH3 region and has an Arg at position 409, and the CH3 region of said second full-length antibody is a second CH3 region and has:

(i) an Asp, Glu, Gly, Asn, Arg, Ser, Thr, Val, or Trp at position 368;

(ii) a Phe, His, Lys, Arg or Tyr at position 399;

(iii) a Gly, Leu, Met or Trp at position 407 and a Lys at position 409, and wherein the first CH3 further has a Tyr at position 407; or

(iv) an amino acid other than Phe, Arg or Gly at position 405 and has a Lys at position 409, and wherein the first CH3 further has a Phe at position 405,

such that the sequences of said first and second CH3 regions are different and are such that the heterodimeric interaction between said first and second CH3 regions is stronger than each of the homodimeric interactions of said first and second CH3 regions, wherein the amino acid positions are numbered according to the EU-index as described in Kabat, wherein said first and second full-length antibodies bind different epitopes, wherein said first and second full-length antibodies:

1) each have an Fc region with an amino acid sequence that is of an IgG1 isotype;

2) each have an Fc region with an amino acid sequence that is of an IgG2 isotype;

3) each have an Fc region with an amino acid sequence that is of an IgG3 isotype; or

4) each have an Fc region with an amino acid sequence that is of an IgG4 isotype; and

wherein said first and second antibodies are humanized antibodies or wherein said first and second antibodies each comprise a full-length heavy chain of a human antibody; and further wherein step a) comprises incubation for at least 90 minutes at a temperature of at least 20°C in the presence 2-mercaptoethylamine at a concentration of at least 25 mM;

b) subjecting at least 10 mL of the composition obtained from step a) to oxidizing conditions sufficient to allow oxidation of cysteines in the full-length bispecific antibody to inter-chain disulfide bonds, and

c) obtaining the full-length bispecific antibody.

2. An *in vitro* method according to claim 1, wherein both first and second full-length antibodies comprise a Cys-Pro-Pro-Cys sequence in the hinge region.

3. An *in vitro* method according to any of the preceding claims, wherein step a) comprises adding a metal chelating agent, such as EDTA, EGTA or citric acid.

4. An *in vitro* method according to any one of the preceding claims, wherein step a) is performed under reducing conditions with a redox potential between -150 and -600 mV, such as between -350 and -450 mV.

5. An *in vitro* method according to any of the preceding claims, wherein the first and second full-length antibodies are in a buffer, which comprises in the range of 1-100 mM phosphate, such as 1-50 mM phoshate or in the range of 1-25 mM, or in the range of 5-20 mM.

6. An *in vitro* method according to claim 5, wherein the buffer has pH in the range of 4.5-8.5, such as in the range of 6.5 to 7.5.

7. An *in vitro* method according to claim 5, wherein the buffer is selected from the group consisting of a) 8.1 mM sodium phosphate (Na_2HPO_4-$7H_2O$), 1.5 mM potassium phosphate (KH_2PO_4), 138 mM sodium chloride (NaCl), 2.7 mM potassium chloride (KCl) pH 5.0; b) 8.1 mM sodium phosphate (Na_2HPO_4-$7H_2O$), 1.5 mM potassium phosphate (KH_2PO_4), 138 mM sodium chloride (NaCl), 2.7 mM potassium chloride (KCl) pH 7.0; 3) 20 mM Tris-HCl, pH 7.8

8. An *in vitro* method according to any of the preceding claims, wherein step b) comprises a pH in the range of 6-8.5.

9. An *in vitro* method according to any of the preceding claims, wherein step b) comprises a redox potential of at least -300 mV.

10. An *in vitro* method according to any of the preceding claims, wherein the oxidizing conditions in step b) comprise the presence of at least 0.05 mM oxygen.

11. An *in vitro* method according to any of the preceding claims, wherein the oxidizing conditions in step b) comprise adding oxygen, wherein the adding of oxygen is performed by the methods comprising: mechanically, e.g. by agitating, stirring, increasing pressure or creating flow, or by sparging with oxygen or air.

12. An *in vitro* method according to any of the preceding steps, wherein the oxidizing conditions in step b) comprise an oxidizing agent, such as e.g. dehydroascorbic acid (dhAA).

13. An *in vitro* method according to any of the preceeding claims , wherein step b) comprises subjecting the composition obtained from step a) to chromatography, such as e.g. column chromatography or to filtration, preferably diafiltration such as tangential flow filtration (TFF) or normal flow filtration (NFF).

14. An *in vitro* method according to claim 13, wherein the diafiltration is performed by circulating the composition through a hollow fiber cartridge comprising a cut-off value in the range of 10-50 kDa, and with a surface area in the range of 0.05-1 m^2, and with a cartridge inlet pressure in the range of 70-280 kPa, until one to seven volumes of buffer exchange have taken place.

15. An *in vitro* method according to any of the preceding claims, wherein the concentration of full-length bispecific antibody in the composition obtained from step a) is in the range of 1-100 g/L.

16. An *in vitro* method according to any of the preceding claims, wherein the oxidizing conditions in step b) comprise adding a metal ion, preferably a metal ion selected from the group consisting of: Copper, Manganese, Magnesium, Iron, Nickel and Cobalt, wherein the metal ion concentration is preferably in the range of from 0.1 to 100 µM.

17. An *in vitro* method according to any of the preceding claims, wherein the ratio of first to second full-length antibody in step a) is in the range of 1:1.01 to 1:2.

18. An *in vitro* method according to any of the preceding claims, wherein either the first full-length antibody or the second full-length antibody is not able to bind to Protein A and/or Protein G.

19. An *in vitro* method according to any of the preceding claims, wherein the first and second full-length antibodies comprise different light chains.

20. An *in vitro* method according to any of the preceding claims, wherein the total concentration of first full-length antibody and second full-length antibody in step a) is at least 0.25 mg/mL.

21. An *in vitro* method according to any of the preceding claims, wherein said first full-length antibody comprises a Phe at position 405 and an Arg at position 409 and said second full-length antibody comprises a Leu at position 405 and a Lys at position 409.