

What is claimed is:

1. Use of a pharmaceutical composition comprising an anti-CD38 antibody in the manufacture of a medicament for treating a patient having light chain amyloidosis (AL), wherein the anti-CD38 antibody is of IgG1 isotype and comprises a heavy chain complementarity determining region 1 (HCDR1), a HCDR2 and a HCDR3 amino acid sequences of SEQ ID NOs: 6, 7 and 8, respectively, and a light chain complementarity determining region 1 (LCDR1), a LCDR2 and a LCDR3 amino acid sequences of SEQ ID NOs: 9, 10 and 11, respectively.
2. The use of claim 1, wherein the patient is resistant to treatment with a proteasome inhibitor, cyclophosphamide and/or a corticosteroid.
3. The use of claim 2, wherein:
 - a) the proteasome inhibitor is Velcade® (bortezomib),
 - b) the corticosteroid is dexamethasone, orboth a) and b).
4. The use of any one of claims 1-3, wherein the anti-CD38 antibody is to be administered in combination with one or more therapeutic agents selected from bortezomib, cyclophosphamide, melphalan, thalidomide, lenalidomide, pomalidomide, dexamethasone or interferon alpha.
5. The use of claim 4, wherein the anti-CD38 antibody and the one or more therapeutic agents are to be administered simultaneously.
6. The use of claim 4, wherein the anti-CD38 antibody and the one or more therapeutic agents are to be administered sequentially.
7. The use of claim 4, wherein the anti-CD38 antibody and the one or more therapeutic agents are to be administered separately.
8. The use of claim 1, wherein AL is cardiac stage I, cardiac stage II, cardiac stage III, relapsed or refractory.

9. The use of claim 1, wherein the patient is to undergo hematopoietic stem cell transplantation (HSCT).
10. The use of claim 9, wherein the HSCT is allogeneic.
11. The use of claim 9, wherein the HSCT is autologous.
12. The use of claim 9, wherein the HSCT is syngeneic.
13. The use of any one of claims 9-12, wherein the HSCT comprises transplantation of blood stem cells derived from bone marrow, blood or amniotic fluid.
14. The use of any one of claims 9-13, wherein the anti-CD38 antibody is to be administered prior to, during or after HSCT.
15. The use of any one of claims 9-13, wherein the anti-CD38 antibody is to be administered during HSCT.
16. The use of any one of claims 9-13, wherein the anti-CD38 antibody is to be administered after HSCT.
17. The use of any one of claims 9-16, wherein the patient has completed chemotherapy and/or radiation therapy prior to HSCT.
18. The use of claim 1, wherein the patient is to be further treated with radiotherapy.
19. The use of claim 1, wherein the anti-CD38 antibody does not mediate killing of CD34-positive hematopoietic progenitor cells by complement dependent cytotoxicity (CDC).
20. The use of claim 1, wherein the anti-CD38 antibody induces killing of CD38 positive plasma cells by antibody-dependent cell-mediated cytotoxicity (ADCC), antibody-dependent cellular phagocytosis (ADCP), complement dependent cytotoxicity (CDC), apoptosis, or modulation of CD38 enzymatic activity.
21. The use of claim 1, wherein the anti-CD38 antibody competes for binding to CD38 with an antibody comprising a heavy chain variable region (VH) of SEQ ID NO: 4 and a light chain variable region (VL) of SEQ ID NO: 5.

22. The use of claim 21, wherein the anti-CD38 antibody binds at least to the region SKRNIQFSCCKNIYR (SEQ ID NO: 2) and the region EKVQTLEAWVIHGG (SEQ ID NO: 3) of human CD38 (SEQ ID NO: 1).
23. The use of claim 1, wherein the anti-CD38 antibody comprises the VH comprising an amino acid sequence that is 95%, 96%, 97%, 98%, 99% or 100% identical to that of SEQ ID NO: 4 and the VL comprising an amino acid sequence that is 95%, 96%, 97%, 98%, 99% or 100% identical to that of SEQ ID NO: 5.
24. The use of claim 23, wherein the anti-CD38 antibody comprises the VH of SEQ ID NO: 4 and the VL of SEQ ID NO: 5.
25. The use of claim 1, wherein the anti-CD38 antibody comprises a heavy chain comprising an amino acid sequence that is 95%, 96%, 97%, 98%, 99% or 100% identical to that of SEQ ID NO: 12 and a light chain comprising an amino acid sequence that is 95%, 96%, 97%, 98%, 99% or 100% identical to that of SEQ ID NO: 13.
26. The use of claim 25, wherein the anti-CD38 antibody comprises the heavy chain of SEQ ID NO: 12 and the light chain of SEQ ID NO: 13.
27. The use of claim 1, wherein the anti-CD38 antibody is to be administered intravenously.
28. The use of claim 1, wherein the anti-CD38 antibody is to be administered subcutaneously and further comprises a hyaluronidase.
29. The use of claim 28, wherein the hyaluronidase is rHuPH20.
30. The use of claim 1, wherein the anti-CD38 antibody is humanized or human.
31. The use of claim 1, wherein the AL is relapsed or refractory.
32. The use of claim 1, wherein the AL is newly diagnosed.