**Claims**

1. Use of $\alpha_1$-microglobulin, abbreviated A1M in the manufacture of a medicament for the treatment of malignancies requiring radionuclide diagnostics, abbreviated RD, radionuclide therapy, abbreviated RNT or radioimmunotherapy, abbreviated RIT, respectively, wherein the A1M is to be administered to a patient in need thereof as a co-treatment to RD, RNT or RIT, and wherein the A1M has at least 95% sequence identity with SEQ ID NO:1 or SEQ ID NO:2.

2. The use according to claim 1, wherein the A1M reduces kidney-related side-effects observed in RD, RNT or RIT.

3. The use according to claim 1 or 2, wherein RD, RNT or RIT is to be performed by use of a compound labelled with a radionuclide.

4. The use according to claim 3, wherein the compound labelled with radionuclide is selected from the group consisting of receptor ligands, affibody molecules, diabodies, antibody fragments, and/or other small molecules.

5. The use according to any one of claims 3-4, wherein the compound labelled with radionuclide is a somatostatin analogue.

6. The use according to claim 5, wherein the somatostatin analogue is selected from the group consisting of octreotide, lanreotide, $Tyr^3$-octrotide, $Tyr^3$-octrotate, DOTADOC, DODATATE, DOTA-lanreotide, pasireotide, dopastatin and octreotide LAR.

7. The use according to any of the preceding claims, wherein the malignancy is cancer.

8. The use according to any of the preceding claims, wherein the malignancy is neuroendocrine tumour.

9. Use of A1M and a compound labelled with radionuclide in the manufacture of a medicament for the treatment of malignancies requiring radionuclide diagnostics (RD) and radionuclide therapy (RNT) or radioimmunotherapy (RIT), respectively, and wherein the A1M has at least 95% sequence identity with SEQ ID NO:1 or SEQ ID NO:2.

10. The use according to claim 9, wherein the A1M reduces kidney-related side-effects observed in RD, RNT or RIT.

11. The use according to claim 9 or 10, wherein the compound labelled with radionuclide is selected from the group consisting of receptor ligands, affibody molecules, diabodies and antibody fragments.

12. The use according to any one of claims 9-11, wherein the compound labelled with radionuclide is a peptide coupled to a radionuclide emitting radiation.

13. The use according to any one of claims 9-12, wherein the compound labelled with radionuclide is a somatostatin analogue.

14. The use according to any one of claims 9-13, wherein the somatostatin analogue is selected from the group consisting of octreotide, lanreotide, $Tyr^3$-octrotide, $Tyr^3$-octrotate, DOTADOC, DODATATE, DOTA-lanreotide, pasireotide, dopastatin and octreotide LAR.

15. The use according to any one of claims 9-14, wherein the malignancy is cancer.

16. The use according to any one of claims 9-15, wherein the malignancy is neuroendocrine tumour.

17. The use according to any one of claims 3-8 or the use according to any one of claims 9-16, wherein the compound labelled with radionuclide is to be administered to a subject requiring RNT or RIT at time t= 0 and the A1M is to be administered to said subject at a time between t = -60 minutes to about t = 30 minutes.

18. The use according to any one of claims 3-8 or the use according to any one of claims 9-16, wherein the compound labelled with radionuclide is to be administered to a subject requiring RD, RNT or RIT at time t= 0 and the A1M is to be administered to said subject at a time t = -30 minutes to about t = 30 minutes.

19. The use according to any one of claims 3-8 or the use according to any one of claims 9-16, wherein the compound labelled with radionuclide is to be administered to a subject requiring RD, RNT or RIT at time t= 0 and the A1M is to be administered to said subject at a time t = -10 minutes to about t = 10 minutes.

20. The use according to any one of claims 3-8 or the use according to any one of claims 9-16, wherein the A1M and the compound labelled with radionuclide are to be administered simultaneously.

21. The use according to any one of claims 1-8 or the use according to any one of claims 9-16, wherein the A1M is to be administered in multiple doses daily during the first week after radionuclide injection.

22. Use of A1M in the manufacture of a medicament for the treatment of kidney injuries relating to radionuclide therapy, abbreviated RNT or radioimmunotherapy, abbreviated RIT, respectively, and wherein the A1M has at least 95% sequence identity with SEQ ID NO:1 or SEQ ID NO:2.