Claims

1. An *in vitro* method of targeting a stem cell, said method comprising the step of contacting the stem cell with a molecule comprising a payload linked to a gamma-carboxyglutamic acid component (GLA-component), wherein said GLA-component comprises a GLA domain or an active fragment thereof, with a conserved motif Gla-x(3)-Gla-x-Cys modified by vitamin K dependent post-translation carboxylation of glutamate residues in the amino acid sequence, and the fragment is a less than the whole domain and retains at least 50% of the activity of the native full-length domain in an *in vitro assay*, and the activity of the GLA domain is the ability to bind phosphatidylserine, and said molecule does not comprise an active catalytic domain from a GLA protein.
2. Use of a molecule comprising a payload linked to a gamma-carboxyglutamic acid component (GLA-component) in the manufacture of a medicament for administration to a patient to target a stem cell to deliver the payload *in vivo,*
   wherein said GLA-component comprises a GLA domain or an active fragment thereof, with a conserved motif Gla-x(3)-Gla-x-Cys modified by vitamin K dependent post-translation carboxylation of glutamate residues in the amino acid sequence, and the fragment is a less than the whole domain and retains at least 50% of the activity of the native full-length domain in an *in vitro* assay, and
   the activity of the GLA domain is the ability to bind phosphatidylserine, and
   said molecule does not comprise an active catalytic domain from a GLA protein.
3. The method or use according to claims 1 or 2, wherein the GLA domain or active fragment thereof is from a protein independently selected from thrombin, factor VII, factor IX, factor X, protein C, protein S, protein Z, osteocalcin, matrix GLA protein (MGP), GAS6, transthyretin (TTR), inter-alpha-trypsin-inhibitor, periostin, proline rich gla 1 (PRRG1), proline rich gla 2 (PRRG2), proline rich gla 3(PRRG3), and proline rich gla 4 (PRRG4).
4. The method or use according to claim 3, wherein the GLA domain or active fragment thereof is from protein S.
5. The method or use according to any one of claims 1 to 4, wherein the GLA-component further comprises an EGF domain.
6. The method or use according to any one of claims 1 to 5, wherein the GLA-domain component further comprises a Kringle domain.
7. The method or use according to any one of claims 1 to 6, wherein the GLA-component comprises a sequence shown in SEQ ID NO: 6.

8. The method or use according to any one of claims 1 to 7, wherein the molecule is internalised in the stem cell.
9. The method or use according to any one of claims 1 to 8, wherein the cell is non-apoptotic.
10. The method or use according to any one of claims 1 to 8, wherein the cell is apoptotic.
11. The method or use according to any one of claims 1 to 10, wherein the stem cell is an embryonic stem cell or an adult stem cell.
12. The method or use according to any one of claims 1 to 11, wherein the stem cell: expresses a surface marker CD34; and/or is negative for lineage positive surface markers (i.e. is Lin -).
13. The method or use according to any one of claims 1 to 12, wherein the stem cell is CD90+, CD133+, CD105+, CD45+, Lin-, CD48-, and CD244-.
14. The method or use according to any one of claims 1 to 13, wherein the stem cell is Lin-, CD34+, CD38-, CD45RA-, CD90+ and CD49f+.
15. The method or use according to any one of claims 1 to 14, wherein the stem cell is non-cancerous.
16. The method or use according to any one of claims 1 to 14, wherein the stem cell is a cancer stem cell.
17. The method or use according to claim 16, wherein cancer stem cell expresses a surface marker selected from CD44, CD133, CD24, CD90, CD271, CD4f, CD13 and combinations of two or more of the same.
18. The method or use according to any one of claims 1 to 17, wherein the stem cell is of haematopoietic origin.