CLAIMS

1. A conjugate comprising a VAR2CSA polypeptide, and a therapeutic or diagnostic effector moiety selected from an anticancer agent or a solid support; or a fusion protein comprising a VAR2CSA polypeptide and an anticancer agent.

2. The conjugate or fusion protein according to claim 1, wherein the VAR2CSA polypeptide is or comprises a protein fragment consisting of a sequential amino acid sequence of

a) ID1, and

b) an amino acid sequence with at least 70 % sequence identity with to amino acid sequence identified by 153-577 of SEQ ID NO:1.

3. The conjugate or fusion protein according to claim 2, which fragment comprises an amino acid sequence having at least 70 % sequence identity with any one amino acid sequence of 1-577 of SEQ ID NO:1, 1-592 of SEQ ID NO:3, 1-579 of SEQ ID NO:4, 1-576 of SEQ ID NO:5, 1-586 of SEQ ID NO:10, 1-579 of SEQ ID NO:11, 1-565 of SEQ ID NO:29, 1-584 of SEQ ID NO:34, 1-569 of SEQ ID NO:36, 1-575 of SEQ ID NO:37, 1-592 of SEQ ID NO:38, 1-603 of SEQ ID NO:41, 1-588 of SEQ ID NO:43, 1-565 of SEQ ID NO:44, 1-589 of SEQ ID NO:45, 1-573 of SEQ ID NO:48, 1-583 of SEQ ID NO:53, or 1-569 of SEQ ID NO:54.

4. The conjugate or fusion protein according to any one of claims 2-3, which fragment comprises an amino acid sequence having at least 70 % sequence identity with an amino acid sequence of 578-640 of SEQ ID NO:1, 593-656 of SEQ ID NO:3, 580-643 of SEQ ID NO:4, 577-640 of SEQ ID NO:5, 587-650 of SEQ ID NO:10, 580-643 of SEQ ID NO:11, 566-628 of SEQ ID NO:29, 585-647 of SEQ ID NO:34, 570-632 of SEQ ID NO:36, 576-639 of SEQ ID NO:37, 593-655 of SEQ ID NO:38, 604-667 of SEQ ID NO:41, 589-652 of SEQ ID

NO:43, 566-628 of SEQ ID NO:44, 590-653 of SEQ ID NO:45, 574-637 of SEQ ID NO:48, 584-646 of SEQ ID NO:53, or 570-632 of SEQ ID NO:54.

5. The conjugate or fusion protein according to any one of claims 2-4, which fragment comprises an amino acid sequence having at least 70 % sequence identity with an amino acid sequence of SEQ ID NO:2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 35, 39, 40, 42, 46, 47, 49, 50, 51, or 52.

6. The conjugate or fusion protein according to any one of claims 1-5, wherein the anticancer agent is selected from calicheamycin, auristatin, doxorubicin, maytansinoid, taxol, ecteinascidin, geldanamycin, methotrexate and their derivatives, cytotoxic proteins such as Pseudomonas exotoxin A, diphtheria toxin, ricin toxin, pokeweed antiviral protein, saporin, gelonin and functional variants, fragments, and combinations thereof.

7. The conjugate according to any one of claims 1-6, wherein the diagnostic effector moiety is a magnetic bead.

8. A composition comprising the conjugate as defined in any one of claims 1-7.

9. A conjugate or fusion protein according to any one of claims 1-7 for use as a medicament or diagnostic agent.

10. A pharmaceutical composition comprising a conjugate or fusion protein as defined in any one of claims 1-7.

11. A VAR2CSA polypeptide or a conjugate or fusion protein as defined in any one of claims 1-7 for the treatment of a cancer or for use in vivo as a biomarker in a body fluid and or tissue for the diagnosis and/or prognosis of a cancer disease.

12. In vitro use of a VAR2CSA polypeptide, or a conjugate or fusion protein as defined in any one of claims 1-7, as a biomarker in a body fluid and/or tissue for the diagnosis and/or prognosis of a cancer disease.

13. Use of a VAR2CSA polypeptide, or a conjugate or fusion protein as defined in any one of claims 1-7 as a targeting moiety for the isolation of a cancer cell.

14. A method for the isolation and/or detection of cancer cells, such as cancer stem cells or circulating cancer cells (CTC) in a biological sample, said method comprising:

a) contacting a biological sample comprising cancer cells with a conjugate or fusion protein according to any one of claim 1-7, or a conjugate or fusion protein comprising a VAR2CSA polypeptide and a fluorescent label, and/or a radiolabel, optionally coupled to a solid support; and;

b) purifying, isolating and/or detecting the complexes of said cancer cells and said conjugate.