Claims

~~1. A method for improving the progression-free survival of a patient suffering from breast cancer by adding bevacizumab to said chemotherapy regimen, said method comprising:~~

~~(a) determining the protein expression level of VEGFA and/or VEGFR2 in a patient sample; and~~

~~(b) administering bevacizumab in combination with a chemotherapy regimen to the patient having an increased expression level of VEGFA and/or VEGFR2 relative to control expression levels determined in patients diagnosed with breast cancer.~~

~~2~~1. An in vitro method for the identification of a patient responsive to or sensitive to the addition of bevacizumab treatment to a chemotherapy regimen, said method comprising determining the protein expression level of VEGFA, ~~and~~/or VEGFR2, or VEGFA and VEGFR2, or VEGFA and PLGF in a blood plasma sample from a patient suspected to suffer from or being prone to suffer from breast cancer, whereby an increased expression level of VEGFA, ~~and~~/or VEGFR2, or VEGFA and VEGFR2, or VEGFA and PLGF relative to control expression levels determined in patients suffering from breast cancer is indicative of a sensitivity of the patient to the addition of bevacizumab to said chemotherapy regimen.

~~3. Use of bevacizumab for improving the progression-free survival of a chemotherapy regimen of a patient suffering from breast cancer comprising the following steps:~~

~~(a) determining the protein expression level of VEGFA and/or VEGFR2 in a patient sample; and~~

~~(b) administering bevacizumab in combination with a chemotherapy regimen to the patient having an increased expression level of VEGFA and/or VEGFR2 relative to control expression levels determined in patients diagnosed with breast cancer.~~

42. The method ~~or use~~ of ~~any one of~~ claims 1 ~~to 3~~, wherein the dose of bevacizumab administered is low dose bevacizumab.

~~5~~3. The method ~~or use~~ of claim 42, wherein the low dose bevacizumab is 7.5 mg/kg of body weight every 3 weeks.

~~6~~4. The method ~~or use~~ of ~~any one of~~ claims 1 ~~to 3~~, wherein the dose of bevacizumab administered is high dose bevacizumab.

~~7~~5. The method ~~or use~~ of claim ~~6~~4, wherein the high dose bevacizumab is 15 mg/kg of body weight every 3 weeks.

~~8~~6. The method ~~of use~~ of claim ~~6~~4, wherein the high dose bevacizumab is 10 mg/kg of body weight every 2 weeks.

~~9~~7. An in vitro method of predicting the response to or sensitivity to the addition of bevacizumab to a chemotherapy regimen of a patient suspected to suffer from, suffering from or prone to suffer from breast cancer comprising determining the protein expression level of VEGFA, ~~and~~/or VEGFR2, or VEGFA and VEGFR2, or VEGFA and PLGF in a ~~patient~~ blood plasma sample from said patient.

~~10~~8. The method ~~or use~~ of any one of claims 1 to ~~9~~7, wherein the protein expression level determined is a combined expression level of VEGFA and VEGFR2.

~~11~~9. The method ~~or use~~ of any one of claims 1 to ~~5~~3 and ~~9~~7, wherein the protein expression level determined is a combined expression level of VEGFA and VEGFR2.

~~12~~10. The method ~~or use~~ of any one of claims 1 to ~~9~~7, ~~further comprising determining the protein expression level of PLGF~~ wherein the protein expression level determined is a combined expression level of VEGFA and PLGF.

~~13. Use of specific probes for the preparation of a diagnostic composition for predicting the response to or sensitivity to the addition of bevacizumab to a chemotherapy~~

~~regimen of a patient suffering from, suspect to suffer from or prone to suffer from breast cancer comprising determining the expression level of one or more of VEGFA and VEGFR2 in a patient sample, wherein said probes are capable of detecting one or more of VEGFA and VEGFR2.~~

~~14. The use of claim 13 further comprising a probe for determining the expression level of PLGF.~~

~~15. The use of claim 13 or 14 wherein the probes are binding molecules like antibodies.~~

~~16~~11. The method ~~or use~~ of any one of claims 1 to ~~15~~10, wherein said expression level is detected by an immunoassay method.

~~17~~12. The method ~~or use~~ of claim ~~16~~11, wherein said immunoassay method is ELISA.

~~18. The method or use of any one of claims 1 to 17, wherein said patient sample is a blood sample.~~

~~19. The method or use of any one of claims 1 to 18, wherein said patient sample is a blood plasma sample.~~

~~20~~13. The method ~~or use~~ of any one of claims 1 to ~~19~~12, wherein said breast cancer is locally advanced, recurrent or metastatic HER-2 negative breast cancer.

~~21~~14. The method ~~or use~~ of any one of claim 1 to ~~20~~13, wherein said chemotherapy regimen comprises docetaxel or paclitaxel.

~~22~~15. The method ~~of use~~ of any one of claim 1 to ~~21~~14, wherein said chemotherapy regimen comprises docetaxel.

~~23~~16. The method ~~or use~~ of any one of claims 1 to ~~22~~15, wherein said patient is being co-treated with one or more anti-cancer therapies.

~~24~~17. The method ~~or use~~ of claim ~~23~~16, wherein said anti-cancer therapy is radiation.

~~25~~18. The method ~~or use~~ of any one of claims 1 to ~~24~~17, wherein said blood plasma sample is obtained before neoadjuvant or adjuvant therapy.

~~26~~19. The method ~~or use~~ of any one of claims 1 to ~~24~~17, wherein said blood plasma samples is obtained after neoadjuvant or adjuvant therapy.

~~27. A kit useful for carrying out the method of any one of claims 1 to 26, comprising polypeptides capable of determining the expression level of one or more of VEGFA, VEGFR2 and/or PLGF.~~

~~28 Use of a polypeptide for determining the expression level of one or more of VEGFA, VEGFR2 and/or PLGF in any one of claims 1 to 26.~~

~~29. The kit of claim 27 or the use of claim 28 comprising a polypeptide capable of determining the expression level of one or more of VEGFA, VEGFR2 and/or PLGF, wherein said polypeptide is suitable for use in an immunoassay method and/or is an antibody specific for VEGFA, VEGFR2 or PLGF.~~