Claims:

1. A method for predicting the sensitivity of a cancer patient for treatment with a Wnt inhibitor in a sample, the method comprising:
a) providing a cancer sample from a cancer patient
b) measuring differential gene expression of at least one biomarker which is Notch 1, in the cancer sample obtained from the patient; and
c) comparing the differential gene expression of the at least one biomarker with gene expression of said biomarker in a control sample,
d) correlating the reduced expression, or decreased activity or function when compared to the control with the patient sensitivity to the treatment with the Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof.

2. A method of predicting the sensitivity of a cancer cell in a sample, the method comprising: a) measuring differential gene expression of at least one biomarker which is Notch-1 in the cell; b) comparing the differential gene expression of the at least one biomarker with gene expression from a normal or control cell;
c) predicting the sensitivity of the cancer cell to the Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide from the comparison of the differential gene expression based on the reduced expression, or decreased activity or function of the at least one biomarker when compared to the control.

3. A method of determining the sensitivity of a cancer cell to a Wnt inhibitor in a sample, the method comprising:
a) contacting a cancer cell with the Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof;
b) measuring differential gene expression of at least one biomarker which is Notch-1 in the cell contacted with the Wnt inhibitor;
c) comparing the differential gene expression of the at least one biomarker with gene expression of the biomarker from an untreated or placebo treated control cell;

d) correlating the decrease in the expression of Notch-1 when compared with the expression of Notch-1 from the untreated or placebo treated control cell to the sensitivity of the cancer cell to a Wnt inhibitor.

4. The method of any one of claims 1 to 3, wherein the Notch1 has mutation in extracellular domain.

5. The method of any one of claims 1 to 4, wherein cancer is a head and neck squamous cell carcinoma.

6. The method of any one of claims 1 to 5, wherein the cancer is treated with a Wnt inhibitor and shows differential expression of Axin2, LEF1 and/or NKD1 compared to the expression in a cancer sample that is sensitive to a Wnt inhibitor.

7. The method of any one of claims 1 to 6, wherein expression or gene expression is DNA expression, DNA copy number, mRNA expression, cDNA expression, protein transcription, protein expression, DNA modification, cDNA modificaiton, mRNA modification, protein modification, DNA function, cDNA function, mRNA function, protein function, DNA mutation, cDNA mutation, mRNA mutation, protein mutation, or combinations thereof; preferably is DNA mutation.

8. Use of a Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof, the manufacture of a medicament for use in a method of treating cancer in a patient, the method comprising:

a) providing a cancer sample from a cancer patient

b) measuring differential gene expression of at least one biomarker which is Notch-1, in the cancer sample obtained from the patient;

c) comparing the differential gene expression of the at least one biomarker with gene expression of the biomarker in a control sample;

d) determining sensitivity of the patient to the Wnt inhibitor based on the reduced expression, or decreased activity or function of the at least one biomarker when compared to the control; and

e) administering an effective amount of the Wnt inhibitor to a patient who has been determined to be sensitive to the Wnt inhibitor.

9. Use of a Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof, the manufacture of a medicament for the treatment of a cancer in a patient, wherein the patient is selected on the basis of:
a) measuring differential gene expression of at least one biomarker which is Notch-1, in a cancer sample obtained from the patient;
b) comparing the differential gene expression of the at least one biomarker with gene expression of the biomarker in a control sample;
c) determining sensitivity of the patient to the Wnt inhibitor based on the reduced expression, or decreased activity or function of the at least one biomarker when compared to the control; and
d) selecting the patient that is sensitive to the Wnt inhibitor;
and 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof, is to be administered to the patient that is identified as sensitive or that is likely to respond to the treatment with the Wnt inhibitor.

10. Use of a Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof, the manufacture of a medicament for the treatment of cancer in a patient having differential gene expression of at least one biomarker which is Notch-1 as compared to a control gene expression, wherein the differential gene expression correlates with the patient being sensitive to the Wnt inhibitor when the expression of the at least one biomarker which is Notch-1 is reduced, or its activity or function decreased when compared to the control.

11. Use of a pharmaceutical composition comprising a Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment of cancer in a patient, wherein the patient is selected on the basis of showing a gene expression of at least one biomarker which is Notch-1 in a cancer

cell sample obtained from said patient compared to a normal control cell sample, wherein the differential gene expression correlates with the patient being sensitive to the Wnt inhibitor when the expression of the at least one biomarker which is Notch-1 is reduced, or its activity or function decreased when compared to the control.

12. Use of a pharmaceutical composition comprising a Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment of cancer in a patient showing differential gene expression of at least one biomarker which is Notch-1 as compared to a control gene expression, wherein the differential gene expression correlates with the patient being sensitive to the Wnt inhibitor when the expression of the at least one biomarker which is Notch-1 is reduced, or its activity or function decreased when compared to the control.

13. The use according to any one of claims 8 to 12, wherein the Notch1 has mutation in extracellular domain.

14. The the use according to any one of claims 8 to 13, wherein cancer is a head and neck squamous cell carcinoma.

15. The the use according to claim 8 to 14, wherein the cancer is treated with a Wnt inhibitor and shows differential expression of Axin2, LEF1 and/or NKD1 compared to the expression in a cancer sample that is sensitive to a Wnt inhibitor.

16. Use of a Wnt inhibitor named 2-[5-methyl-6-(2-methylpyridin-4-yl)pyridin-3-yl]-N-[5-(pyrazin-2-yl)pyridin-2-yl]acetamide, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment of head and neck squamous cell carcinoma, wherein the Wnt inhibitor is administered to a patient with a cancer showing differential gene expression of at least one biomarker which is Notch-1 compared to a control gene expression, wherein the differential gene expression correlates with the patient being sensitive to the Wnt inhibitor.

17. Use according to any one of claims 8 to 16, wherein expression or gene expression is DNA expression, DNA copy number, mRNA expression, cDNA expression, protein

transcription, protein expression, DNA modification, cDNA modificaiton, mRNA modification, protein modification, DNA function, cDNA function, mRNA function, protein function, DNA mutation, cDNA mutation, mRNA mutation, protein mutation, or combinations thereof; preferably is DNA mutation.