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CLAIMS

- 1) Method for *in vitro* diagnosis of the risk of recurrence or persistence of head and neck cancer in a patient who underwent removal of the tumour, said method comprising or consisting of measuring, in at least one liquid biopsy sample collected before tumour removal and in at least one liquid biopsy sample collected after tumour removal, the expression of two or all of the miRNAs selected from miR-21-3p, miR-96-5p and miR-429, optionally also of the microRNA miR-21-5p; or of one of the miRNAs selected from miR-21-3p, miR-96-5p and miR-429 and also of the microRNA miR-21-5p, wherein an expression of said miRNAs in said at least one liquid biopsy sample collected after tumour removal that is equal to or greater than the expression of said miRNAs in said at least one liquid biopsy sample collected before tumour removal indicates a high risk of recurrence or persistence of the cancer, whereas a lower expression indicates a low risk of recurrence or persistence of the cancer.
- 2) Method according to claim 1, wherein said at least one liquid biopsy sample is selected from blood, plasma, serum and saliva.
- 3) Method according to any one of claims 1-2, wherein the expression of miR-96-5p is measured in a blood, serum or plasma sample, the expression of miR-429 is measured in a saliva sample and the expression of miR-21-3p or miR-21-5p is measured in a blood, plasma, serum or saliva sample.
- 4) Method according to any one of claims 1-3, wherein said method is carried out on one or more samples selected from blood, serum or plasma and on a saliva sample.
- 5) Method according to any one of claims 1-4, wherein said two miRNAs or said one of the miRNAs in combination with miR-21-5p comprise miR-96-5p when the patient undergoes radio- and/or chemotherapy, said miR-96-5p being preferably detected in a sample selected from serum, blood or plasma.
- 6) Method according to any one of claims 1-5, wherein said method

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is carried out by Real Time PCR, Microarray or RNA Next Generation Sequencing.

7) Use of two or all of the microRNAs selected from miR-21-3p, miR-96-5p and miR-429, optionally in combination with the microRNA
5 miR-21-5p; or

of one of the miRNAs selected from miR-21-3p, miR-96-5p and miR-429 in combination with the microRNA miR-21-5p, as biomarkers for *in vitro* diagnosis of the degree of risk of recurrence or persistence of head and neck cancer in liquid biopsy samples.

10 8) Use according to claim 7, wherein the liquid biopsy samples are selected from blood, plasma, serum and/or saliva.

9) Kit for *in vitro* diagnosis of the degree of risk of recurrence or persistence of head and neck cancer, said kit comprising or consisting of one or more pairs of primers and/or one or more probes for the detection
15 of two or all of the microRNAs selected from miR-21-3p, miR-96-5p and miR-429, optionally also for the detection of the microRNA miR-21-5p; or

of one of the miRNAs selected from miR-21-3p, miR-96-5p and miR-429 in combination with primers and/or probes for the detection of the microRNA miR-21-5p.

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