

CLAIMS

1. A method for (a) diagnosing or predicting the risk of life-threatening deterioration or an adverse event or (b) diagnosing or prognosing the severity or (c) predicting or monitoring the success of a therapy or intervention or (d) therapy guidance or therapy stratification or (e) patient management in a patient infected with a coronavirus, the method comprising:
 - determining the level of dipeptidyl peptidase 3 (DPP3) in a sample of bodily fluid of said patient,
 - comparing said level of determined DPP3 to a pre-determined threshold, and
 - correlating said level of determined DPP3 with the risk of life-threatening deterioration or an adverse event, or
 - correlating said level of determined DPP3 with the severity, or
 - correlating said level of determined DPP3 with the success of a therapy or intervention.
 - correlating said level of DPP3 with a certain therapy or intervention, or
 - correlating said level of DPP3 with the management of said patient.
2. A method for (a) diagnosing or predicting the risk of life-threatening deterioration or an adverse event or (b) diagnosing or prognosing the severity or (c) predicting or monitoring the success of a therapy or intervention or (d) therapy guidance or therapy stratification or (e) patient management in a patient infected with a coronavirus according to claim 1, wherein said coronavirus is selected from the group comprising SARS-CoV-1, SARS-CoV-2, MERS-CoV, in particular SARS-CoV-2
3. A method for (a) diagnosing or predicting the risk of life-threatening deterioration or an adverse event or (b) diagnosing or prognosing the severity or (c) predicting or monitoring the success of a therapy or intervention or (d) therapy guidance or therapy stratification or (e) patient management in a patient infected with a coronavirus according to claim 1 or 2, wherein said adverse event is selected from the group comprising death, organ dysfunction, shock, ARDS, kidney injury, ALI (Acute Lung Injury) or cardiovascular failure.

4. A method for (a) diagnosing or predicting the risk of life-threatening deterioration or an adverse event or (b) diagnosing or prognosing the severity or (c) predicting or monitoring the success of a therapy or intervention or (d) therapy guidance or therapy stratification or (e) patient management in a patient infected with a coronavirus according to claims 1 to 3, wherein said level of determined DPP3 is above a pre-determined threshold.
5. A method for (a) diagnosing or predicting the risk of life-threatening deterioration or an adverse event or (b) diagnosing or prognosing the severity or (c) predicting or monitoring the success of a therapy or intervention or (d) therapy guidance or therapy stratification or (e) patient management in a patient infected with a coronavirus according to claims 1 to 4, wherein the level of DPP3 is determined by contacting said sample of bodily fluid with a capture binder that binds specifically to DPP3.
6. A method for (a) diagnosing or predicting the risk of life-threatening deterioration or an adverse event or (b) diagnosing or prognosing the severity or (c) predicting or monitoring the success of a therapy or intervention or (d) therapy guidance or therapy stratification or (e) patient management in a patient infected with a coronavirus according to claims 1 to 5, wherein said determination comprises the use of a capture-binder that binds specifically to full-length DPP3, wherein said capture-binder may be selected from the group of antibody, antibody fragment or non-IgG scaffold.
7. A method for (a) diagnosing or predicting the risk of life-threatening deterioration or an adverse event or (b) diagnosing or prognosing the severity or (c) predicting or monitoring the success of a therapy or intervention or (d) therapy guidance or therapy stratification or (e) patient management in a patient infected with a coronavirus according to claims 1 to 6, wherein said patient is treated with an inhibitor of DPP3 activity and/or an angiotensin-receptor-agonist and/ or a precursor of said angiotensin-receptor-agonist.

8. Inhibitor of the activity of DPP3 and/or an angiotensin-receptor-agonist and/ or a precursor of said angiotensin-receptor-agonist for use in therapy or intervention in a patient infected with a coronavirus.
9. Inhibitor of the activity of DPP3 and/or an angiotensin-receptor-agonist and/ or a precursor of said angiotensin-receptor-agonist for use in therapy or intervention in a patient infected with a coronavirus according to claim 8 wherein said coronavirus is selected from the group comprising Sars-CoV-1, Sars-CoV-2, MERS-CoV, in particular Sars-CoV-2.
10. Inhibitor of the activity of DPP3 and/or an angiotensin-receptor-agonist and/ or a precursor of said angiotensin-receptor-agonist for use in therapy or intervention in a patient infected with a coronavirus according to claim 18 or 19 wherein said patient has a level of DPP3 in a sample of bodily fluid of said subject that is above a predetermined threshold when determined by a method according to any of claims 1 – 7.
11. Inhibitor of the activity of DPP3 for use in therapy or intervention in a patient infected with a coronavirus according to claims 8 – 10, wherein the inhibitor of the activity of DPP3 is selected from the group comprising anti-DPP3 antibody or anti-DPP3 antibody fragment or anti-DPP3 non-Ig scaffold.
12. Inhibitor of the activity of DPP3 for use in therapy or intervention in a patient infected with a coronavirus according to claims 8 – 11, wherein said inhibitor is an anti-DPP3 antibody or anti-DPP3 antibody fragment or anti-DPP3 non-Ig scaffold that binds an epitope of at least 4 to 5 amino acids in length comprised in SEQ ID No. 1.
13. Inhibitor of the activity of DPP3 for use in therapy or intervention in a patient infected with a coronavirus according to claims 8 – 12, wherein said inhibitor is an anti-DPP3 antibody or anti-DPP3 antibody fragment or anti-DPP3 non-Ig scaffold that binds an epitope of at least 4 to 5 amino acids in length comprised in SEQ ID No. 2.

14. Inhibitor of the activity of DPP3 for use in therapy or intervention in a patient infected with a coronavirus according to claims 8 – 13, wherein said antibody is a monoclonal antibody or monoclonal antibody fragment.
15. Inhibitor of the activity of DPP3 for use in therapy or intervention in a patient infected with a coronavirus according to claim 14, wherein the complementarity determining regions (CDR's) in the heavy chain comprises the sequences:

SEQ ID NO.: 7, SEQ ID NO.: 8 and/ or SEQ ID NO.: 9

and the complementarity determining regions (CDR's) in the light chain comprises the sequences:

SEQ ID NO.: 10, KVS and/or SEQ ID NO.: 11.

16. Inhibitor of the activity of DPP3 for use in therapy or intervention in a patient infected with a coronavirus according to claim 15, wherein said monoclonal antibody or antibody fragment is a humanized monoclonal antibody or humanized monoclonal antibody fragment.
17. Inhibitor of the activity of DPP3 for use in therapy or intervention in a patient infected with a coronavirus according to claim 16, wherein the heavy chain comprises the sequence:

SEQ ID NO.: 12

and wherein the light chain comprises the sequence:

SEQ ID NO.: 13.

18. Angiotensin-receptor-agonist and/ or a precursor thereof for use in therapy or intervention in a patient infected with a coronavirus according to claims 8 to 17, wherein said Angiotensin-receptor-agonist and/ or a precursor thereof is selected from the group comprising angiotensin I, angiotensin II, angiotensin III, angiotensin IV.