CLAIMS

1. A process of detecting at least one microorganism present in a sample placed in a closed container, said method comprising essentially the following steps:
    a) Place said sample in contact in the container with at least one culture medium and a support capable of capturing the microorganism(s) to be detected,
    b) Close the container,
    c) Place the container under conditions capable of allowing the growth of the microorganism(s)
    d) Detect, inside said closed container, using detection means, the presence of the microorganism(s) fixed onto the capture support.

2. The process according to Claim 1, in which a revealing system capable of allowing the detection is placed in contact in the container during step a).

3. The process according to one of the preceding claims, including an intermediate step c') consisting in transferring all or part of the mixture constituted by said sample, the culture medium, the support capable of capturing the microorganism(s) to be detected and potentially of the revealing system, from the container, in this case called the main container, to at least one second container called the secondary container.

4. The process according to one of the preceding claims, including a supplementary step e) consisting in confirming the detection of the microorganism(s) detected.

5. The process according to claim 4, wherein the confirming step e) is accomplished using a detection means which is identical or different from the detection means used for the detection step.

6. The detection process according to one of the preceding claims, wherein the detection means is taken from the group comprising: electrical detection means, in

particular electrochemical detection means, optical detection means, acoustic detection means, thermal detection means, mechanical detection means, and magnetic detection means.

7. The process according to one of the preceding claims, wherein the support for capturing the microorganism(s) also constitutes the detection means.

8. The detection process according to the one of the preceding claims, wherein at least one specific or non-specific binding partner of the microorganism(s) is fixed onto the capture support.

9. The detection process according to the preceding claim, wherein the specific binding partner is taken from the group comprising: antibodies, Fab fragments, Fab' fragments, recombinant or non-recombinant phage proteins, and phages.

10. The process according to one of the preceding claims, wherein the detection of the microorganism(s) is performed in real-time.

11. The detection process according to the one of the preceding claims, wherein the detection of the microorganism(s) is performed after the growth step of said microorganism(s).

12. The detection process according to the one of the preceding claims, wherein the container is a homogenisation bag, a flask, a bottle or a pillbox.

13. The process according to one of the preceding claims, wherein the capture support is a one-piece or particulate support.

14. The process according to the preceding claim, wherein the particulate support is constituted of sensitised particles.

15. The process according to the preceding claim, wherein the sensitised particles are

magnetic.

16. The detection process according to one of the preceding claims, wherein the detection means is connected to a data analysis system.

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17. The detection process according to one of the claims 16, wherein the connection between the capture support or the detection means and the data analysis device is a wired connection or a wireless connection.

CLAIMS

1. A process of detecting at least one microorganism present in a sample placed in a closed container, said method comprising essentially the following steps:
   a) Place said sample in contact in the container with at least one culture medium and a one-piece support capable of capturing the microorganism(s) to be detected,
   b) Close the container,
   c) Place the container under conditions capable of allowing the growth of the microorganism(s)
   d) Detect, inside said closed container, using detection means, the presence of the microorganism(s) fixed onto the capture support.

2. The process according to Claim 1, in which a revealing system capable of allowing the detection is placed in contact in the container during step a).

3. The process according to one of the preceding claims, including an intermediate step c') consisting in transferring all or part of the mixture constituted by said sample, the culture medium, the support capable of capturing the microorganism(s) to be detected and potentially of the revealing system, from the container, in this case called the main container, to at least one second container called the secondary container.

4. The process according to one of the preceding claims, including a supplementary step e) consisting in confirming the detection of the microorganism(s) detected.

5. The process according to claim 4, wherein the confirming step e) is accomplished using a detection means which is identical or different from the detection means used for the detection step.

6. The detection process according to one of the preceding claims, wherein the detection means is taken from the group comprising: electrical detection means, in

particular electrochemical detection means, optical detection means, acoustic detection means, thermal detection means, mechanical detection means, and magnetic detection means.

7. The process according to one of the preceding claims, wherein the one-piece support for capturing the microorganism(s) also constitutes the detection means.

8. The detection process according to the one of the preceding claims, wherein at least one specific or non-specific binding partner of the microorganism(s) is fixed onto the capture support.

9. The detection process according to the preceding claim, wherein the specific binding partner is taken from the group comprising: antibodies, Fab fragments, Fab' fragments, recombinant or non-recombinant phage proteins, and phages.

10. The process according to one of the preceding claims, wherein the detection of the microorganism(s) is performed in real-time.

11. The detection process according to the one of the preceding claims, wherein the detection of the microorganism(s) is performed after the growth step of said microorganism(s).

12. The detection process according to the one of the preceding claims, wherein the container is a homogenisation bag, a flask, a bottle or a pillbox.

13. The detection process according to one of the preceding claims, wherein the detection means is connected to a data analysis system.

14. The detection process according to claim 13, wherein the connection between the capture support or the detection means and the data analysis device is a wired connection or a wireless connection.