

# **Candida Detector Q&A**

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## **Q1: What is the Candida Detector ?**

A: The product is a selection medium for Candida that developed as one of the evaluation methods for a clinical use. This culture medium is based on a Sabouraud culture medium with growth depressants, so the bacteria contaminated in the sample extract will not grow but only Candida species can grow to be detected selectively.

If a colony count is only required, it can be observed at room temperature without using an incubator.

Moreover, the product can detect and judge Candida easily both by the number of colony and the color change since it contains special indicator under the incubator condition, so that its visual appeal to a patient increases dramatically.

## **Q2: What is Candida ?**

A: Candida is one of the indigenous bacteria, usually exist in a healthy person's mouth, intestine, vagina, etc. It is yeast-like fungi detected from a tongue surface in the mouth, plaque or the mucous membrane of the cheek. The symptoms by Candida infection vary according to the infected parts. In the case of the superficial infection, pathological changes such as false membrane are recognized directly. In the case of the profound infection, the characteristic symptoms can not be observed, and other diseases are tending to appear in succession rather than as primary infection (a microbial substitution, an opportunistic infection).

## **Q3: What is the Candida strain ?**

A: In the mouth, Candida albicans that has the highest pathogenicity shows the abundance ratio of about 80%, and, subsequently C.glabrata and C.tropicalis are detected. Fungi mentioned above can be detected by this culture medium but the strain cannot be identified.

## **Q4: Is the detection of candida useful as an evaluation method of oral care ?**

A: Even for a healthy person, there are many bacteria in their mouth as indigenous bacteria.

It is well known that it is important to maintain oral hygiene using a toothbrush and the number of bacteria in order to prevent decay and periodontal disease etc.

Moreover, recently, candida has been said to become a cause not only a denture stomatitis but also an oral diseases such as angulus infection, and furthermore aspiration pneumonia or hematosepsis. Controlling the number of Candida by oral

cleaning leads to prevent such diseases. Evaluation of the oral care can be performed by counting the number of candida colonies that increases if the oral hygiene is not maintained.

**Q5: What is the appearance of the Candida colony ?**

A: The Candida colony grows on the medium according to the sampling area using a swab. And the color of the colony is cream (yellowish white), and the shape is circle with a swelled center. In addition, the color of the colony sometimes is dark brownish cream or ashes blackish cream, depending on the candida strain.

Usually one candida cell forms one colony, but if it is cultivated for a long time, every single colony becomes large but makes no fusion.

**Q6: Precaution**

A: 1. It should be stored in a dark and cold place (do not freeze).

2. Please do not use it when growth of mold etc. in the vial is recognized before use.

3. Please do not open the cap of a vial, and the bag of a swab except the time of use.

4. After a sample is applied, the vial should be kept standing upright in order to make judgment of the colony clear.

5. While culture it, please loosen the cap of the vial.

(During the culture, CO<sub>2</sub> will be generated, so the color generation of the colony may be affected and it becomes difficult to judge.)

6. To judge the color generation, please cultivate the sample in an incubator for 48 hours ( $\pm 3$  hours) correctly, and judge the color immediately, same as count the number of colony. However, it is possible to culture the vial at room temperature, if the colony count is only required.

The standard cultivation time at room temperature;

Summer time: Three to five days,

Winter time: Five to seven days.

7. Please dispose used vial and swab as industrial wastes for medical use.

8. Please carry out an identification test separately when determination of the candida strain is required.

9. An expiration date for use is for two years from the date of manufacture when it is stored in a refrigerator. (It is shown in the upper part of the bar code)

**Q7: Why should be the vial kept standing upright after the sample is applied ?**

A: It is because the liquid, which deposited at the time of the agar setting, seeps out and flushes away colonies formed on a slope of the culture medium.

**Q8: What is the reason that the judgment of a color should be performed correctly after 48hours of incubation at 37°C ?**

A: When Candida does not exist at all, the color will not change depending on time. Even if  $10^2$  CFU/mL or less of candida exists, which the judgment basically is negative, the medium may become acidic and the color may change to yellow if the incubation time is more than 48 hours. On the other hand, if the incubation time is less than 48 hours, the color will not change, even if the number of Candida exist more than  $10^3$  CFU/mL, since the acid production is little to affect the indicator.

**Q9: About the uniqueness of the Candida Detector**

A: Saprophytic bacteria including gram positive and gram negative that are oral indigenous bacteria won't grow or react more than the limits of the number of bacteria (less than  $10^5$  CFU/mL) in this medium.

However, clinically speaking, *Pseudomonas aeruginosa* and *Serratia marcescens* etc are the bacteria which grow and react when the number of bacteria exceeds more than the certain number. *Pseudomonas aeruginosa* may change the medium color to purple (since pH increases), and *Serratia marcescens* may change it to yellow (since pH falls). Other bacterium may grow, but the appearance of a colony is point-like small circle or an irregular form and hardly changes the color of a culture medium.

How to differentiate fungi and bacteria is that the colony of the fungi becomes round, but the bacterial colony becomes large and rough periphery.

**Q10: The number of Candida cells and its clinical symptoms**

A: Candida is one of oral indigenous bacteria and it is detected in saliva and mucous membranes, it is reported that the number of bacteria and clinical symptoms correlates.

Renner et al. (Oral Surg. 47:323-328 1979) say that if the sample from the palate membrane contains  $10^4$ - $10^6$  CFU/mL of bacteria, a certain clinical treatment is required.

And Epstein et al. (J. Clin.Microbiol.12:475-476 1980) has reported that if *Candida albicans* in saliva exceeds 400 CFU/mL, mycotic stomatitis is likely to develop.

Clinical symptoms are reflected quite objectively since the Candida Detector judges pseudo-positive with  $10^3$  CFU/mL of bacteria and judges positive with  $10^4$  CFU/mL or more.