

* How CTCB produces samples in bacteriology

- All samples are lyophilized.
- Annual selection of 8 strains by experts among strains isolated from expert's hospital laboratory (from hospitalized patients or in consultation), strains sent to the expert's laboratory by other laboratories for difficulties of identification or susceptibility, and sometimes reference strains.
- Verification of identifications by several biochemical techniques (automated and manual systems), by molecular techniques (16S RNA ...) and by mass spectrometry. In case of discrepancy, the strain is removed.
- Strains are conserved at -80°C
- The lyophilisation is carried out by a subcontractor. Strains are sent to him in the form of culture on agar (blood or chocolat agar)
- Stability, absence of contamination and homogeneity are verified by 3 referent laboratories before sending samples to the participants.



* How CTCB produces samples in parasitology

- Different matrix are proposed :
 - Blood smears (*slides*)
 - Stools (*specimens preserved in routine stool fixative*)
- Selection of parasites are made by the expert according to morphological characters as defined in the reference bibliography, following clinical and biological criteria consistent with the scenario proposed by the previous programs.
- If the number of participants is too high, we can realize two or three different batches.



* How CTCB produces samples in parasitology : **Blood smears**

- Blood sample is obtained by venous draw with EDTA (anticoagulant di- or tripotassium ethylene-diaminetetraacetic acid). If necessary, 2 collection tubes can be used but with the same parasitic stage and the same concentration.
- After preparation of smear on glass slides, the May-Grünwald-Giemsa staining method is realized.
- morphological characters are verified on 5 or 6 slides per collection tubes.
- Slides are stored at ambient temperature (storage is possible for more than a year).
- New controls are carried out just before sending to laboratories :
 - Plasmodium: 10 smears are analyzed (magnification of the objective x 100). If more than one collection tube is used, only 5 smears are analysed per tubes
 - Filarial nematode: all slides are verified (magnification of the objective x 10)
- Stability is verified by the results of the three reference laboratories.



* How CTCB produces samples in parasitology : **Stools**

- A suspension is realized in Merthiolate Iode Formol (MIF staining method). The suspension must have a volume to distribute at least 500 micro-liters per participant.
- The suspension is controlled by examination of 5 slides.
- 0.2 to 0.5 ml of the suspension after shaking are distributed in sterile plugged tubes; To secure the closure, Parafilm is added.
- Samples are stored at +4° C (storage is possible for more than a year)
- Just before sending to laboratories, we realized a microscopic control on 10 samples.
- Stability is verified by the results of the three reference laboratories.



* How CTCB produces samples in mycology

Different matrix are proposed :

- lyophilized strains
- yeast suspensions in sterile distilled water or broth Sabouraud
- culture on agar (Sabouraud, Malt or potato carrot PC)



* How CTCB produces samples in mycology

- selection of strain by the expert according to phenotypic characters as defined in the reference bibliography, following clinical and biological criteria consistent with the scenario proposed by the previous programs.
- transplanting the parent strain. On this first culture, the following controls are made : macroscopic and microscopic controls, identification by biochemical or immunological criteria (+ / - chromogenic growth media)



* How CTCB produces samples in mycology

- Production of the batch of samples according to the chosen matrix :
 - seeding the mother strain on agar and ambient temperature storage or refrigerated until achievement of homogeneity and contamination tests.
 - realization of a suspension in distilled water or culture medium (Sabouraud broth), distribution of suspension in sterile microtubes (0.5ml to 1ml). storage or refrigerated until achievement of homogeneity and contamination tests.
 - realization of a suspension which is then lyophilized (subcontractor). Homogeneity and absence of contamination are also verified (3 experts laboratories).
- Stability is verified by 3 experts laboratories at the end of the survey.

