Cryptococcal antigen lateral flow test

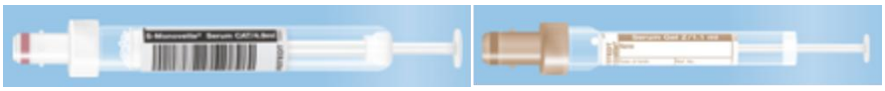
IMMY CrAg lateral flow assay for cryptococcal antigen.

General information

Turnaround time: This assay is performed on demand. Turnaround time: >95% within one working day.

Sample type/container:

Blood:



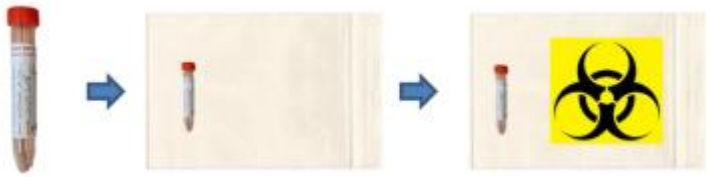
- 4.9 ml clotted blood
- Clotted blood – send minimum serum volume of 0.5 ml.
- Serum tube (Sarstedt S-Monovette white cap) or serum gel tube (brown cap). Blood collected in EDTA tubes will be rejected.
- Non-haemolysed specimens must be provided.
- Please do not remove the cap before sending for testing nor share the sample to avoid laboratory contamination.

Cerebrospinal fluid (CSF):

- Send minimum of 50 µl collected into an appropriate UKCA/CE-marked sterile leak-proof container.

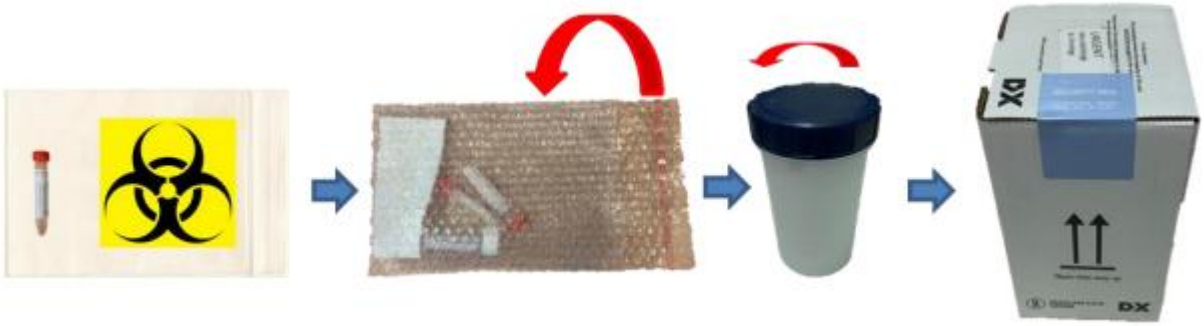
Transportation:

- Samples should be placed into a plastic Ziploc bag, sealed, and then placed into another sealed plastic Ziploc bag (preferably with a biohazard label on the outside), as shown below.



- Category B transport boxes or an appropriate transport bag (i.e., one which adheres to regulations governing the transportation of diagnostic specimens) must be used for transport by road or between Manchester University Foundation Trust sites (but are not necessary within Wythenshawe hospital grounds).

- Please see below for packaging requirements.



For more information - https://mrcm.org.uk/sample-collection/

Laboratory Information

Biological interval/clinical decision values:

Negative or positive by lateral flow (using IMMY CrAg LFA).

Positive results are provided as a titre, e.g., 1:5 – 1:2560. The titre is reported as the highest dilution that yields a positive test result. Further titrations are performed if positive at 1:2560.

Clinical Information

Indications for testing:

- Testing for cryptococcal capsular antigen is one of the most reliable methods for the diagnosis of cryptococcosis.
- Suspected cryptococcosis, including cryptococcal meningitis, pulmonary and disseminated disease, in both immunocompromised, e.g., HIV-positive, and immunocompetent patients.

A positive test is indicative of infection, but low titres should be interpreted with caution.

Limitations:
The assay performance characteristics have not been established for samples other than CSF, plasma, whole blood, or serum.

The predictive value of a positive or negative serologic result depends on the pretest likelihood of cryptococcal disease being present. This test can be used in the context of screening and diagnosis of cryptococcal diseases in at-risk populations.

Titres obtained by the IMMY CrAg LFA are not equivalent to titres obtained by other cryptococcal antigen tests.

Possible causes of false negatives:
Testing haemolysed serum samples could lead to false negatives due to the high background colour on the strip.

Non-encapsulated and weakly encapsulated strains that can cause disease in severely immunocompromised patients may lead to false negative results.

Although rare, extremely high concentrations (>0.140 mg/ml) of cryptococcal antigen can result in weak test lines and, in extreme instances, yield negative test results. The risk of this affecting test interpretation is minimised by testing serial dilutions of the sample.

The assay has not been evaluated for potential interference related to specimen pre-treatment with 2-mercaptoethanol, or with specimens including the following substances: caffeine, ascorbic acid, itraconazole, amphotericin B, paracetamol or acetylsalicylic acid.

Possible causes of false positives:
According to published reports, *Trichosporon beigelii* can cause false positives.

High levels (> 40 ug/ml) of human anti-mouse antibodies (HAMA) may cause false positive test results.

At high concentrations (>0.1 mg/mL), antigens from *Paracoccidiodes brasiliensis* exhibited some cross-reactivity. Cross-reactivity has been described with 10% of serum samples that were *Aspergillus* galactomannan positive.

The CrAg lateral flow assay was evaluated for cross-reactivity against a panel of patient serum specimens. All the following showed no cross-reactivity: penicilliosis, sporothrichosis, syphilis, rubella, mycoplasmosis, toxoplasmosis, CMV, blastomycosis, coccidiodomycosis, histoplasmosis, candidiasis, rheumatoid factor.

This assay was not evaluated for cross-reactivity against the following organisms or pathologies:
Fungal: *Candida dubliniensis*, *C. tropicalis*, *C. parapsilosis*, *Pichia kudriavzevii*, *Nakaseomyces glabratus*, *Cladosporium trichoides*, *Pneumocystis jirovecii,* zygomycetes.
Non-fungal: Antinuclear antibody, hepatitis A and C virus, *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Neisseria meningitidis*, *Salmonella typhi*, *Mycobacterium tuberculosis.*

References:

Cryptococcal Antigen lateral Flow assay for the detection of cryptococcal antigen, IMMY Inc. Doc PIS-00107, Rev. 2, 2024-09-19.

(Last updated January 2025)