

Division of Laboratory Medicine

Bacteriology

Stem Cell Sterility Check

Stem cells samples are submitted from two clinical teams:

- Cellular Therapeutics Ltd, Grafton Street Unit (Manchester University) Dr Ryan Guest (Purple top & Pink Top Bottle)
- Stem Cell Unit, Haematology Department MFT, Wendy Ogden (Single Pink Top Bottle)

General information

Collection container (including preservatives): Collect specimens in BD Bactec bottle using aseptic technique. Bactec bottles should be stored at room temperature before use.

Specimen type:



Collection: Culture bottles are prepared during stem cell processing and stem cell product manufacture to ensure the stem cells have not been contaminated with bacteria.

Specimen transport: Samples should not be refrigerated.

Inoculated bottles should be incubated as soon as possible, and within a maximum of four hours. The four hour turnaround time from collection to incubation for blood culture samples reflects their clinical significance.

Type and volume of sample:

A Paediatric (pink top) blood culture bottle requires 1-3ml of stem cell product.

An Anaerobic (purple top) blood culture bottle requires 5-8 ml of stem cell product.

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Do not exceed the manufacturer's recommended maximum volume for each bottle as shown on label.

Special precautions: Use aseptic technique.

Inspect the blood culture bottles for damage.

Ensure that the blood culture bottles have not exceeded their expiry date.

Do not re-sheath needles.

Laboratory information

Measurement units: Growth detected or not detected

Biological reference units: Not applicable

Turnaround time for provisional result (working days): Negative result 3 days

Turnaround time to final result (working days): 10 days

Clinical information

Clinical decision points: Not applicable

Factors known to significantly affect the results: Any recent antimicrobial therapy can have a significant effect on blood culture results by decreasing the sensitivity of the test.

Limitations:

It is estimated that 2-5% of positive samples may be missed if bottles are pre-incubated, these organisms may fail to trip the threshold algorithm of the continuous monitoring blood culture machine. This may occur with Abiotrophia species (nutritionally variant streptococci), *S. pneumoniae* which have undergone a degree of autolysis, and fastidious organisms which are unable to grow on routine solid culture media.

Organisms may include:

- Campylobacter species
- Helicobacter species
- Capnophilic organisms
- Slow-growing anaerobes

(Last updated February 2019)