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| --- | --- | --- |
| Name: | Date: | Lab: |
| Material: | Reported to: |  |

## Cell culture investigation

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| --- | --- |
| 1. Does the medium have a cloudy appearance? | Yes |
| Suspended microbes often make growth medium cloudy/turbid after overgrowing. | No |
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| 1. Does the medium smell unusual? | Yes |
| Microbes often produce metabolites with unexpected aromas (e.g. fruity, buttery, and rancid) | No |
|  |  |
| 1. Has the culture medium gone yellow? | Yes |
| Some microbes (e.g. Lactobacilli) produce acids which lower the medium pH. If the culture medium contains the phenol red dye it will appear yellow when pH<6.8. | No |
|  |  |
| 1. Is anything floating in the medium? | Yes |
| Fungi often present as floating disks in static cultures, or dense spheroids in agitated cultures. | No |
|  |  |
| 1. Using a microscope to observe the culture: are there any speckles between the cells? | Yes  No |
| Some microbes grow slowly, or may be detectable at an early stage of contamination. In these cases, unexpected dark speckles between cells may be bacteria or be the result of cell apoptosis caused by cell infection (e.g. by a virus). |  |
|  |  |
| 1. Using a microscope to observe the culture: are there moving objects? | Yes  No |
| *Some bacteria contain flagella which allow them to move rapidly within the culture. This type of contaminant is relatively easy to spot under the microscope.* |  |
|  |  |
| 1. Are my cells dead or dying? | Yes |
| Some contaminants which cannot be seen under light microscopes (e.g. viruses) may cause unexpected cell death. | No |
|  |  |
| 1. Do my cells look normal? | Yes |
| *An often unappreciated source of contamination is other cell lines which may out-compete your own cells over time. It is well documented that some 10% – 20% of banked cell cultures used in research were actually HeLa cells. Is it possible you have thawed the wrong cells? Is it possible your flask has become contaminated with cells of a different morphology? 9. Have you confirmed the type of the contamination?* | No |

Fungal

Bacterial

Other

( Please state)

## Investigation results

1. If you have answered **Yes** to any the questions and have positively identified that the culture is contaminated please proceed with the disposal/cleaning procedure (refer to guidance). **If you are unsure, ask a microbiologist or experienced cell-culture scientist for a second opinion**.
2. Please indicate, in the box below, the source(s) of contamination you feel best describe your situation (refer to guidance documents).
3. Hand this form to the lab manager.
4. In the event that further investigation is required to determine the root cause of the

contamination, please discuss with the lab manager.