

Ask ECACC.... Focus On Cryopreservation

ECACC receives a diverse range of technical enquires and in this issue we have focused on the freezing of cell lines which account for a large proportion of the queries we deal with.

How should I store my frozen cells on arrival..?

On arrival, Frozen vials should be transferred immediately to vapour phase LN₂ or Liquid phase LN₂ if vapour phase not available. Do not use a -80°C freezer as an alternative as this can reduce the viability of the cells.

Why is Vapour phase LN₂ preferred to liquid phase LN₂..?

If ampoules are immersed in Liquid Phase LN₂ it increases the risk of LN₂ seeping into the vial, this would cause potential problems of cross-contamination and increased risk of the ampoule exploding when thawed.

What Safety precautions should I take when thawing ampoules..?

It is important to first check the Material Safety Data Sheet (MSDS) that is supplied with the cells to ensure that the correct level of containment is observed for the cell lines you are using. When handling the ampoules it is important to wear insulated safety gloves and full-face visor in addition to a lab coat.

When should I freeze down a bank of cells..?

Once in culture it is advisable to freeze down a token bank of 3-5 ampoules as soon as possible. This will provide a source for Master banks from which you can create working stocks to use. This tiered banking system will minimise risks associated with maintaining cells in permanent culture such as microbial contamination, genetic drift, loss of characteristics of interest or senescence of finite life span cell lines.

What Quality Control testing should I perform on frozen stocks..?

After freezing down a bank it is important to thaw 2-3 ampoules to check for cell count / viability and

freedom from Bacteria, Fungi and Mycoplasma. This testing should be done on all master and working banks produced prior to use. It is also important to confirm that Master and Working banks are genetically identical by DNA profiling. ECACC performs this same level of QC testing on all available cell lines together with any additional testing as required (such as BVDV testing for Bovine cell lines).

Ordering Information

Prod. No.	Description	Pack Size
ECACC		
98070106-1vl	HL60 cell line	Growing Culture Frozen
Sigma		
C6164	Cell Culture Freezing Medium-DMSO, cell culture tested	50ml 5x50ml
Sigma		
C1562	Freezer Container, Nalgene Mr Frosty	1 each