

ECACC news - November 2016

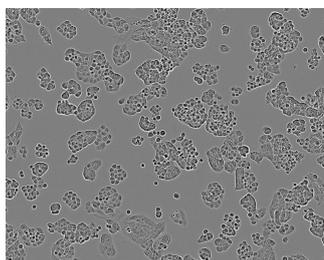
ECACC top tips: antibiotics in cell culture

Q: I am working in a multi user laboratory and I'm concerned that my cell line is at risk from contamination. Can I use antibiotics to help keep my culture 'clean'?



Scroll down for the answer...

Cancer drug resistance in A2780 ovarian cancer cell lines



ECACC has recently confirmed the cancer drug-resistance in three commonly used ovarian cancer cell lines. Cell behaviour and response to the compounds was quantified using novel label-free analysis and fluorescent nuclear staining, showing that the cells retain the IC_{50} values determined several decades ago. This demonstrates that the cells behave as originally described and remain useful tools in cancer research.

[Find out more](#)

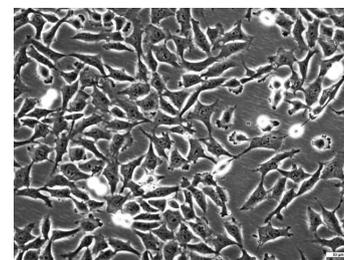
STR profiling service - coming soon!

We have a new STR profiling service for you to authenticate your cells. Watch this space...

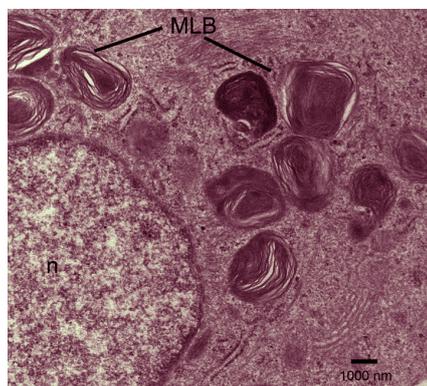
Cell line profile - 1321N1

The cell line expresses surface receptors for regulation of cell migration. Studies of regulators of growth and migration show that mutation of the enzymes that modify these regulators are linked to changes in the cell invasion and metastasis. They are also associated with various pathological syndromes e.g. Lowe syndrome.

[Find out more](#)



[Find more cell line profiles here](#)

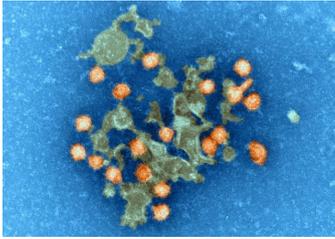


Better lung cell modelling with A549 cells

The A549 lung cancer cell line has been available for many years, however, its ability to serve as a valid model of alveolar type (ATII) cells has been the subject of much debate in the scientific community. Through long term cell culture in defined conditions to drive differentiation, scientists from PHE and Southampton University have used RNA micro array analysis and electron microscopy to demonstrate this treatment may allow the cell line to perform better in experiments. This was completed by comparing the gene expression and ultrastructural similarities of differentiated A549 cells to primary human ATII cells.

[Find out more](#)

Zika virus - sharing data in public health emergencies



Since 2015, an outbreak of Zika virus infection has been occurring in the Caribbean, Central and South America. As surveillance for Zika virus infection improves, further cases are expected to be

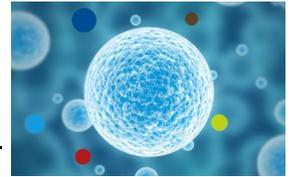
reported in these regions and previously unaffected countries, territories and areas. Read more about Zika virus and the WHO 'Zika Open' an access area online for researchers to share data and publications.

[Find out more](#)

EBiSC training - differentiation of iPS cells into neuron and cardiomyocyte lineages

23-25 November -
Edinburgh, UK

Last few spaces remaining!



EBiSC are hosting an event that brings together the extensive expertise of the EBiSC project partnership from across Europe. It provides hands on training and workshop activities in stem cell technology relating to the culture and differentiation of pluripotent stem cell lines. The course utilises high quality stem cell laboratory facilities for the practical training.

[Find out more](#)

Reproducibility in preclinical life science research - lost in translation?

A number of reports over the past few years have presented data suggesting that a significant proportion of life science research is not reproducible. These reports suggest that as much as 50-70% of academic life science research cannot be reproduced and this is costing hundreds of millions of pounds on the generation of questionable data, which is hampering the success of translational research which leads to successful healthcare outcomes.



[Find out more](#)

ECACC top tips : antibiotics in cell culture



A: ECACC does not generally recommend the use of antibiotics in cell culture work as they can mask a low level contamination and poor aseptic technique. The ampoule of cells which you received either directly from ECACC or via one of our distributors will not have been cultured using antibiotics. However, we understand that many laboratories do use antibiotics although this is not considered to be best practice. Below is a table of antibiotics most frequently used during cell culture.

Antibiotic	Working Concentration	Activity Against
Amphotericin B	2.5 ug/ml	Fungi, yeasts
Ampicillin	2.5 ug/ml	Bacteria, gram negative and gram positive
Ciprofloxacin	100 ug/ml	Mycoplasma
Neomycin	50 ug/ml	Bacteria, gram negative and gram positive
Penicillin	100 U/ml	Bacteria, gram positive
Streptomycin	100 ug/ml	Bacteria, gram negative and gram positive
Tetracycline	10 ug/ml	Bacteria, gram negative and gram positive

Table 1. Common antibiotics used in cell culture. Information from 'Culture of Animal Cells: A manual of basic technique'. Fifth Edition by R. Ian Freshney.

A combination of Penicillin (100U/ml), Steptomycin (100ug/ml), and Amphotericin (2.5ug/ml) is effective against the most common forms of cell culture contamination; bacteria (gram positive and gram negative), yeast, and fungi; when used at the concentrations stated.

N.B. Antibiotics should not be added to freeze media as during the freezing of the cells the antibiotics will become concentrated and result in a toxic effect on the cells.



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