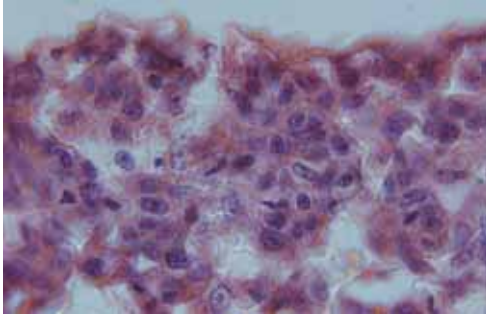


# Liver cells grown in **alvetex**



## Introduction:

Improving the predictive value of liver toxicity assays has been a major objective in drug development for some time since it is well recognized that hepatocytes grown in 2D provide a poor model for in-vivo responses. alvetex® enables the creation of in-vitro cell models which more accurately represent the in-vivo cellular environment and cell function, generating in-vitro toxicity data of greater biological relevance.

## Highlights:

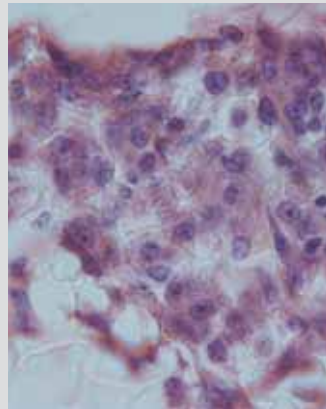
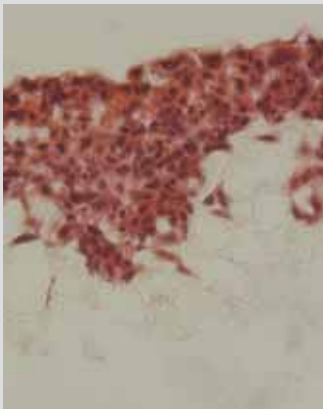
Liver cells grown on alvetex® demonstrated:

- Formation of complex 3-dimensional liver cell structures
- Increased cell viability compared with 2D techniques
- Higher expression of key liver enzymes
- Enhanced metabolic responses to model toxicants

## Key Benefits and Applications:

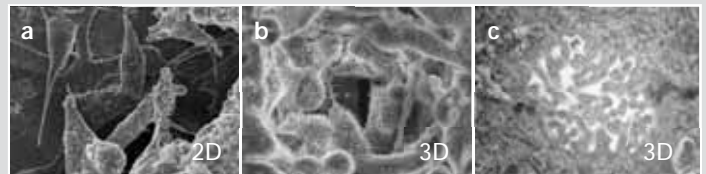
- Enable the development of long-term cell based assays
- Improve predictive toxicology measurement
- Increase the screening accuracy of toxic compounds
- Increase efficiencies in preclinical tests
- Decrease the dependency on animal models
- Easy to use consumable product

## Growth on alvetex® enables formation of in-vivo like 3D structures



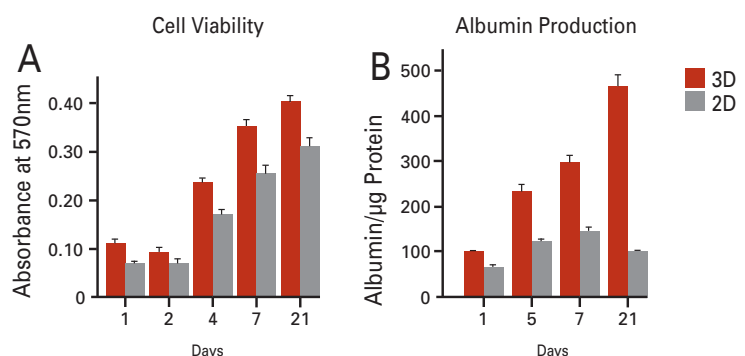
Histological analysis of HepG2 cells grown in alvetex® for 14 days in 6 well inserts. Samples processed using standard methods and counterstained with H&E.

Scanning electron micrographs of hepatocytes grown on 2D (a) and 3D (b) formats of polystyrene substrate. Transmission electron micrograph shows the formation of a bile canaliculus (c).



## HepG2 liver cells grown on alvetex® out perform their 2D counterparts

Comparative 2D vs. 3D alvetex® data shows cell viability and albumin production is consistently higher in alvetex® compared with conventional 2D tissue culture.

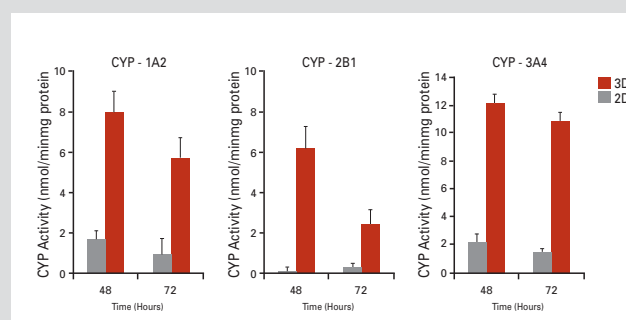
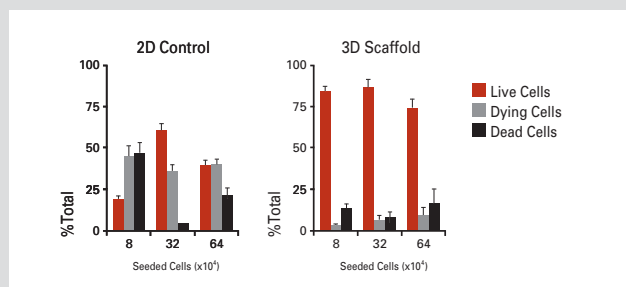


## Hepatocytes grown on alvetex® display superior viability, structure and function

Live cell/dead cell staining shows that primary hepatocyte viability is significantly enhanced in 3D culture using alvetex®

Hepatocytes grown in alvetex® demonstrate significantly higher expression of key liver enzymes, such as cytochrome p450, than their counterparts grown with standard 2D models during cellular responses to known cytotoxic compounds.

Induction of enzyme expression in primary rat hepatocytes cultured for 3 days in 2D and 3D culture. Cells were induced to express cytochrome p450 using APAP (acetaminophen). Cyp enzyme levels determined by EROD and LC/MS assays.



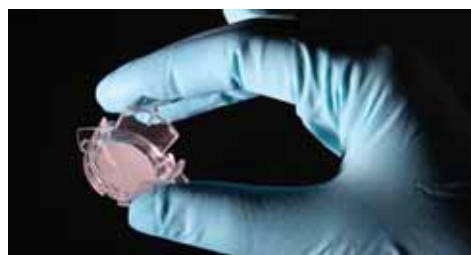
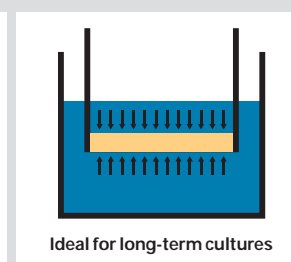
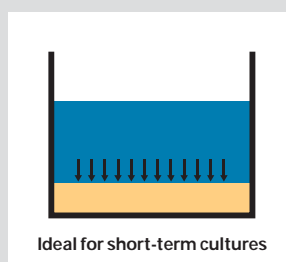
## Comprehensive range of alvetex® presentations enable flexible experimental design

alvetex® is available in a range of formats, designed with ease of use and flexibility in mind.

alvetex® presented in a multi-well plate format is ideal for short-term cultures and techniques such as transfection.

alvetex® mounted in our well insert bathes the 3D culture in medium from above and below enabling long-term culture.

Our well insert holder mounted in a deep petri dish provides a larger volume of medium to further optimise growth of long-term 3D cultures.



## Ordering Information

Product Name	Code	Description
alvetex® 12 well plate	AMS.AVP002	1 x alvetex® 12 well plate
alvetex® 6 well inserts	AMS.AVP004-32	6 x individually sealed well inserts for 6 well-plate
alvetex® 12 well inserts	AMS.AVP005-34	12 x individually sealed well inserts for 12 well-plate
alvetex® well insert holders and petri-dishes	AMS.AVP015-2	2 well insert holders (for 3 inserts each) and deep petri-dishes

## Product Description

alvetex® is supplied as 200µm thick discs of porous polystyrene in either multi well plate or well insert formats. alvetex® is compatible with most standard coating methods for cell culture plastic ware.

For detailed information go to:  
[www.AMSBIO.com](http://www.AMSBIO.com)

UK +44 (0) 1235 828 200 DE +49 (0) 69 779099  
CH +41 (0) 91060405522 US +1 855 267 2464