

# BIOT

## Derwent Biotechnology Resource

**■ Contents:**

All the technical aspects of biotechnology are covered, from genetic manipulation and biochemical engineering to fermentation, all commercial uses of micro-organisms, enzymes and cell cultures, out of which has grown plant microscopy, cellular hybridisation and industrial waste removal. Over 1,100 scientific and technical journals, conference papers and international patents are covered. Emerging areas of biotechnology have been added including bioinformatics, genomics, proteomics, pharmacogenomics, high throughput screening, biochips, and tissue engineering. Characteristics: bibliographic and patent searching, surveillance of developments in biotechnology, conference papers.

**■ Coverage:**

From July 1982. Some older references are also included.

- |                               |  |
|-------------------------------|--|
| <b>■ Number of records:</b>   | Over 275, 558 records  |
| <b>■ Updating:</b>            | Weekly   |
| <b>■ Language of records:</b> | English  |
| <b>■ Cluster searching:</b>   | The BIOT database belongs to the predefined SCITECH (FI CL SCITECH) and ENGINEER (FI CL ENGINEER) search clusters.   |
| <b>■ SDI Profiles:</b>        | Weekly   |
| <b>■ Producer:</b>            | Derwent Information Limited<br>Derwent House<br>14 Great Queen Street<br>LONDON WC2B 5DF<br>UNITED KINGDOM<br>Tel.: +44 171-344-2800<br>Fax: +44 171-344-2900<br>Help Desk: +44 171-344-2999<br>E-mail: <a href="mailto:helpdesk@derwent.co.uk">helpdesk@derwent.co.uk</a> |

## Enhancements

- **All ongoing patent records will contain the full Derwent World Patents Index™ documentation abstract.** The abstract will be provided in sections for ease of scanning, enabling users to understand the relevance and applications of each patent at a glance.
- **All ongoing journal records will contain original journal author abstracts where available.** A Derwent abstract will also be included if the journal author abstract lacks important biotechnological content, or if no author abstract is present.
- **BIOT files will now be updated weekly.**
- **Expanded subject coverage.** Coverage for Derwent Biotechnology Abstracts has been expanded to include all emerging areas of biotechnology, including bioinformatics, genomics, proteomics, pharmacogenomics, high throughput screening, biochips, and tissue engineering.
- **A new classification system and updated thesaurus** will be provided in order to incorporate new terms associated with the new technology areas.
- **Expanded journal coverage.** The journal list has been revised to include the very latest journals in biotechnology. The new journal list has been prioritised to ensure that the highest yielding and most relevant scientific journals will be available online first. Relevant articles from each journal will be intellectually selected for relevance by a Derwent subject expert.
- **Timeliness of all patents, journals and conferences** will improve significantly throughout 2002.
- **The number of records per update will increase** throughout 2002.

# Sample Records

## Literature record

1/1 BIOT - (C) DERWENT  
AN - \*\*\*2002-00466\*\*\*  
TI - Self-assembly and 2-dimensional patterning of cell arrays by electrophoretic deposition  
ST - demonstrated using *Saccharomyces cerevisiae*  
AU - Brisson V; +Tilton R D  
CA - Univ.Carnegie-Mellon  
LO - Department of Chemical Engineering and Center for Complex Fluids Engineering, Carnegie Mellon University, Pittsburgh, PA, 15213, USA. email:tilton andrew.cmu.edu  
SO - *Biotechnol.Bioeng.*; (2002) 77, 3, 290-95; ISSN: 0006-3592; CODEN: BIBIAU  
LA - English; (ENG)  
CL - BIOINFORMATICS AND ANALYSIS; Biosensors; THERAPEUTICS; Tissue Culture/Engineering; BIOINFORMATICS AND ANALYSIS; Biochips and Bioarrays  
IT - *Saccharomyces cerevisiae* model cell array; patterning; electrophoretic deposition; appl. biosensor; tissue engineering  
- yeast fungus electrophoresis (Vol.21, No.1)  
DT - Literature(L)  
AB - A method of forming 2-dimensional, patternable cellular arrays was demonstrated using *Saccharomyces cerevisiae* as a simple system. The method does not require surface chemical templating of the substratum to produce arrays or patterns. The colloidal characteristics of the yeast cells allowed the formation of dense, quasi-ordered 2-dimensional clusters adjacent to the gold electrode surface by electrophoretic deposition (EPD). Using ac EPD, dense 2-dimensional cell clusters were formed in minutes from extremely dilute cell suspensions. The arrays could be induced to form geometric patterns by focusing the electric field during deposition. These monolayer arrays were reversible, dissipating by diffusion on removal of the electric field, and were not in adhesive contact with the electrode surface. Brief application of a modest dc current density adhered the arrays tightly to the surface. The patterned cell arrays could be useful for application in cell-based biosensors or novel chip-based gene expression systems, and in tissue engineering. (17 ref)

## Patent Record

2/101847 BIOT - (C) DERWENT

AN - 2002-00469

TI - Porous chitosan beads for use as matrix for culturing animal and plant cells such as hepatocytes and viral packaging cells used in cell growth, angiogenesis and nutrient diffusion, has preset uniform pore size

ST - the use of macroporous chitosan bead

AU - Jeong S Y; Bae E; Kwon I C; Choi K

CA - Korea-Res.Inst.Sci.Technol.

LO - Seoul, Korea.

LA - English; (ENG)

PN - WO200146266 - 20010628

AP - 00WO-KR1388 20001130 [2000WO-KR01388]

PR - 99KR-060034 19991221 [1999KR-0060034]

CL - BIOMANUFACTURING AND BIOCATALYSIS; Animal/Plant Cell Culture; THERAPEUTICS; Tissue Culture/Engineering

IT - macroporous chitosan bead; three-dimensional structure; aqueous chitosan solution; phase separation method; appl. animal; e.g. hepatocyte; fibroblast; osteoblast; etc. plant; virus packaging cell culture; cell growth; angiogenesis; nutrient diffusion; tissue engineering

- mammal (Vol.21, No.1)

DT - Patent (\*\*P\*\*)

AB - Porous chitosan beads having uniform pores of size 5-200 um is claimed. Also claimed are: matrix for use in culturing cells, containing the porous chitosan beads; preparing porous chitosan beads involving providing a chitosan solution, adding the chitosan solution, the aqueous chitosan solution or mixture of it in an organic solvent of low temp. or in liquid nitrogen to give beads, and freeze-drying the chitosan beads; and culturing animal cells from hepatocyte, fibroblasts, osteoblast or viral packaging cells and plant cells from CEL, UV18 and K-1 cells, using the porous chitosan beads which involving freeze-drying the porous chitosan beads, neutralizing the porous chitosan beads to remove acids and organic solvents, followed by sterilizing the beads, subjecting the porous chitosan beads to preculturing for 4-6 hrs to attach the cells to the porous chitosan beads, and refreshing a culture medium of cells attached to the chitosan beads. The porous chitosan beads are useful as matrices for culturing animal and plant cells, in cell growth, angiogenesis and nutrient diffusion. (39pp)

# Searching

## Basic Index (default index)

Search by	Index	Search Hints	Examples
Terms from the Basic Index	/BI (default)	All fields comprising the Basic Index are searchable without using a prefix.  Search using single terms with truncation (left, right and internal), Boolean and proximity operators.  Implied adjacency is available (phrase searching).	GEOGRAPHIC+ 1W POPULATION?  +BOLUS D VIRGINICUS  CULTURE DERIVE? VARIATION
Title	/TI	Search using single terms (operators) or phrases (implied adjacency).	/TI NATURAL 1W TISSUE
Secondary title	/ST	Search using single terms (operators) or phrases (implied adjacency).	/ST CONFERENCE PAPER
Index words	/IW	Search using single terms (operators) or phrases (implied adjacency). Use the /IT index with the NBR (=IND), MEM and MEMS commands.	/IW NATURAL W VARIATION
Abstract	/AB	Search using single terms (operators) or phrases (implied adjacency).	/AB TISSU? CULTURE METHOD

## Super-Index

Search by	Index	Search Hints	Examples
Super-Index TITLES	/XT	This index enables you to search the Title (TI) and Secondary title (ST) fields simultaneously.	/XT EUTROPHICATION AND (NITROGEN OR PHOSPHORUS) AND ALGA?

## Patent Search Indexes

Search by	Index	Search Hints	Examples
Publication data: number, date and country  <u>2000 Onwards:</u>  WOYYYYNNNNNN (PCT - 10 digits) JPYYYYYNNNNNN (Japan - 10 digits) USYYYYNNNNNN (US APP -11 digits)	/PN (or /PC)	Search by:  <ul style="list-style-type: none"> <li>patent number in the format: CCNNNNNNNN CC: Country code N.....N = 7-digit patent number For PCT applications, the format is WOYYYYNNNN - Pre-2000. For Japanese patents, the format is: JPYYYYNNNN (YY = Imperial year) - Pre-2000.</li> <li>publication date in the format YYYYMMDD or YYYYMM or YYYY. Do not use numeric operators.</li> <li>publication country using the country code.</li> </ul>	/PN US5888496 /PN GB2330357  /PN WO9901387 /PN WO200164847 /PN JP11104676 /PN JP2001179234 /PN US20010010930 /PN 19990114  /PN 1999  /PN WO
Publication date	/PD	Search the publication date in the format: YYYY-MM-DD YYYY-MM YYYY  Use numeric operators: =, >, >=, <, <=.	PD>=1999-02-10 PD<=1999-02 PD=1999 PD=1995:1997
Publication country	/PC (or /PN)	Search by the country code for the country of publication.	/PC FR /PC FR OR GB
Application data: Number and country	/AP (or /APC)	Search by: <ul style="list-style-type: none"> <li>application or priority number - in Questel•Orbit format: YYYYCC-NNNNNNNN For Japanese patent applications, use the Gregorian (Western) year.</li> <li>the country code for the application or priority country.</li> </ul>	/AP 1997US-0889628 /AP 1997JP-0267462  /AP US
Priority data: number and country	/PR (or /PRC)		/PR 1998GB-0019207 /PR 1997DK-0000803  /PR DK

## Patent Search Indexes (cont.)

Search by	Index	Search Hints	Examples
Application date	/APD	Search by application date in the format: YYYY-MM-DD YYYY-MM YYYY  Use numeric operators: =, >, >=, <, <=.	APD>=1997-05-30 APD<1997-06 APD=1997 APD=1992:1995
Priority date	/PRD	Search by priority date in the format: YYYY-MM-DD YYYY-MM YYYY  Use numeric operators: =, >, >=, <, <=.	PRD>1997-05-30 PRD<1997-06 PRD=1998 PRD=1984:1988
DWPI accession number	/WAN (or /XAN, /XR)	In the BIOT database, extract the number from the WAN field, then, in the DWPI database, search this number in the AN index. Conversely, in the DWPI database, extract the number in the AN field, then, in the BIOT database, search this number in the WAN index.	MEM /WAN *MEM /AN  MEM /AN *MEM /WAN
Standardized patent numbers	/XPN /XAP /XPR	Questel•Orbit has created standardized patent (XPN), application (XAP) and priority (XPR) numbers in order to facilitate crossfile searching between other patent databases.	MEM /XPN  MEM /XPR

## Literature Search Indexes

Search by	Index	Search Hints	Examples
Source	/SO	This field contains the journal name and code, the publication number, page references, publication year and ISSN number. Search using single terms (operators) or phrases (implied adjacency), using truncation. Each element forming the Source field may be search in the following individual fields.	/SO MICROBIOL W BIOTECHNOL?  /SO HORTSCIENCE  /SO JIMIE7
Journal name	/JN	This field is indexed as a key word index and is useful for statistical analysis (MEMS command).	/JN GENE THERT
Publication year	/PY	Search by publication date in the format: YYYY  Use numeric operators: =, >, >=, <, <=.	PY=1990  PY<1995
ISSN number	/NU	Search the ISSN number, with or without 'ISSN'. When not using 'ISSN', the hyphen within the number is not required.	/NU ISSN 0018-5345 /NU 0018-5345  /NU 00185345
Journal Coden	/JC	Search by journal code (CODEN).	/JC HJHSAR
Conference details	/CD (or /CONF)	This field contains the conference name, date and country.  Search using single terms (operators) or phrases (implied adjacency).	/CD AMERICAN SOCIETY FOR HORTICULTURAL  /CD USA  /CD 1996

## Common Indexes

Search by	Index	Search Hints	Examples
Author(s) or Inventor(s)	/AU	<p>Search the surname only or by surname followed by initials, without punctuation.</p> <p>Use quotation marks when searching for the initials D, F, L, P, S and W, which are also search operators.</p> <p>Use the /AUN index with the NBR (=IND), MEM and MEMS commands.</p>	<p>/AU AHMAD</p> <p>/AU SELISKAR "D" M</p>
Corporate author or Patent applicant	/CA (or /OS, /PA)	<p>Search using single terms (operators) or phrases (implied adjacency).</p> <p>Use truncation to retrieve abbreviations.</p> <p>Use the /CAN index with the NBR (=IND), MEM and MEMS commands.</p>	<p>/CA UNIV+ W DELAWARE</p> <p>/CA INST+ PASTEUR</p>
Language of publication	/LA	<p>Search by:</p> <ul style="list-style-type: none"> <li>- the English spelling of the language,</li> <li>- 3-letter ISO code.</li> </ul> <p>Use the syntax /LA XE to select all non-English language documents.</p> <p>See list of language codes on page 12.</p>	<p>/LA SPANISH</p> <p>/LA FRE</p>
Classification codes	/CL	<p>Search by keywords or the corresponding 1 or 2-digit code. See the list of classification codes on pages 13 - 16.</p> <p>Note: Three classifications are available. Beginning 2002 a new classification system has been implemented. Please see pages 13 - 14.</p>	<p>/CL AGRICULTURE</p> <p>/CL A</p> <p>/CL A1</p>
Type of document	/DT	<p>Search by code or keyword.</p> <ul style="list-style-type: none"> <li>- Conference proceeding: C</li> <li>- Literature: L</li> <li>- Patent: P</li> </ul> <p>Use quotation marks with L and P codes.</p>	<p>/DT LITERATURE</p> <p>/DT "P"</p>
Enzyme Commission	/EC	<p>Search by the number which appears generally in the abstract.</p>	<p>/EC EC-1.14.12.11</p>

## Other Indexes

Search by	Index	Search Hints	Examples
Accession number	/AN	Search in the format: YYYY-NNNNN YYYY = 4-digit year N: accession number (variable number of characters)	/AN 1999-01699
Accession year	/AY	Corresponds to the year shown in the accession number AN.  Search in the format: YYYY Use numeric operators: =, >, >=, <, <=.	AY=1998
Update code  Weekly from 2002-01 onwards	/UP	Search in the format: YYYY-NN or YYYY+.  From 1998, NN = 2-week period Before 1998, NN = quarter	/UP 1999-04  /UP 1999+

# Document Display

Fields	Formats			
	MAX (or FULL, FU)	STDR	TEST (or TR)	SCAN (or SC)
AB	†	†		
AN	†	†	†	†
AP	†	†		
AU	†	†		
CA	†	†		
CD	†	†		
CL	†		†	
DT	†			
IT	†		†	
LA	†	†		
LO	†	†		
PN	†	†		
PR	†	†		
SO	†	†		
ST	†	†	†	†
TI	†	†	†	†

- The EC (Enzyme Commission), WAN (DWPI accession number), UP (update code), XAP, XPN and XPR (standardized patent numbers) fields are not included in any predefined display format.

To display this information, add the field name to an existing format.

Example: PRT MAX PLUS XPN

- For literature references, the journal name (JN), ISSN number (NU), journal code (JC) and publication year (PY) are included in the SO (source) field.

- For patent records, the publication date (PD), application date (APD) and priority date (PRD) are included in the PN (publication data), AP (application data) and PR (priority data) fields respectively.

## List of Fields

All these fields may be used with the LI, PRT, BR and =YES commands.

AB	Abstract
AN	Accession number
AP	Application data
APD	Application date
AU	Author or inventor
AY	Accession year
CA	Corporate author or patent applicant (= OS, PA)
CD	Conference details (= CONF)
CL	Classification codes
DT	Type of document
EC	Enzyme Commission
IT	Index terms
JC	Journal code
JN	Journal name
LA	Language of publication
LO	Author or inventor address
NU	ISSN number
PD	Publication date
PN	Publication data
PR	Priority data
PRD	Priority date
PY	Publication year
SO	Source
ST	Secondary title
TI	Title
UP	Update code
WAN	DWPI accession number
XAP	Standardized application number for crossfile searching
XPN	Standardized patent number for crossfile searching
XPR	Standardized priority number for crossfile searching

## List of Language Codes: /LA

<b>CODE</b>	<b>LANGUAGE</b>
BUL	BULGARIAN
CHI	CHINESE
CZE	CZECH
DAN	DANISH
DUT	DUTCH
ENG	ENGLISH
FLE	FLEMISH
FRE	FRENCH
GER	GERMAN
HEB	HEBREW
HUN	HUNGARIAN
ITL	ITALIAN
JPN	JAPANESE
KOR	KOREAN
NOR	NORWEGIAN
POL	POLISH
POR	PORTUGUESE
RUM	RUMANIAN
RUS	RUSSIAN
SCR	SERBO-CROATIAN
SLV	SLOVENIAN
SPA	SPANISH
SWE	SWEDISH
UKR	YKRANIAN
XE	NON-ENGLISH

## List of Classification Codes: /CL

### BIOT Classification from 2002

HEADING	SUBHEADING
Genetic Techniques and Applications	Gene Expression Techniques and Analysis
	Genomic Technologies
	Transgenic Animals and Animal Models
Bioinformatics and Analysis	Biosensors
	Hardware
	Software
	Databases
	Biochips and Bioarrays High Throughput Screening
Pharmaceuticals	Antibiotics
	Hormones
	Vaccines
	Antibodies
	Other Pharmaceuticals
Therapeutics	Gene Therapy
	Protein Therapeutics
	Tissue Culture/Engineering
Diagnostics	Molecular Diagnostics
	Antibody-based diagnostics
Disease	Cancer
	Cardiovascular
	Blood and Hematopoietic Cells
	Central Nervous System
	HIV and Other Virus Infection
	Neuromuscular System
	Endocrine/Metabolic System
	Respiratory System
	Liver
	Kidney
	Autoimmune Disease
	Infectious Disease (non-viral)
	Other Disease
	Biomanufacturing and Biocatalysis
Fermentation	
Animal/Plant Cell Culture	
Biocatalyst Isolation and Characterization	
Biocatalyst Application	
Downstream Processing	
Agricultural Biotechnology	Biological Control Agents
	Plant Genetic Engineering
	In Vitro Propagation
	Pesticides
	Other (e.g. plant growth factors)

## BIOT Classification from 2002 (continued)

HEADING	SUBHEADING
Food and Food Additives	Single cell proteins, amino acids, vitamins, flavors, pigments etc.
Fuels, Mining and Metal Recovery	Biofuels and Solvents
	Mining and Metal Recovery
Other Chemicals	Polymers
	Stereospecific Compounds
	Miscellaneous Chemical (e.g. sugars, alcohols)
Waste-disposal and Bioremediation	Industrial Waste-Disposal
	Environmental Biotechnology

## BIOT Classification from 1993

Code	Class
A	GENETIC ENGINEERING and FERMENTATION
A1	Nucleic Acid Technology
A2	Fermentation
B	ENGINEERING
B1	Biochemical Engineering
C	ANALYSIS
C1	Sensors and Analysis
D	PHARMACEUTICALS
D1	Antibiotics
D2	Hormones
D3	Peptides and Proteins
D4	Vaccines
D5	Other Pharmaceuticals
D6	Antibodies
D7	Clinical Genetic Techniques
E	AGRICULTURE
E1	Biological Control Agents
E2	Plant Genetic Engineering
E3	Pesticides
E4	In-Vitro Propagation
E5	Other Agricultural
F	FOOD
F1	Food and Food Additives
G	FUELS MINING AND METAL RECOVERY
G1	Biofuels and Solvents
G2	Mining and Metal Recovery
H	OTHER CHEMICALS
H1	Polymers
H2	Chiral Compounds
H3	Miscellaneous Compounds
J	CELL CULTURE
J1	Animal Cell Culture
J2	Plant Cell Culture
K	BIOCATALYSIS
K1	Isolation and Characterization
K2	Application
L	PURIFICATION
L1	Downstream Processing
M	WASTE DISPOSAL AND THE ENVIRONMENT
M1	Industrial Waste Disposal
M2	Environmental Biotechnology

## BIOT Classification before 1993

Code	Class
A	MICROBIOLOGY
A1	Genetics
A2	Fermentation
B	ENGINEERING
B1	Biochemical Engineering
C	CHEMISTRY
C1	Analysis and Structure
D	PHARMACEUTICALS
D1	Antibiotics
D2	Hormones
D3	Interferon
D4	Vaccines
D5	Other Pharmaceuticals
E	AGRICULTURE
E1	Biological Control Agents
E2	Nitrogen Fixation
E3	Pesticides
E4	Cultivation in-vitro
E5	Other Agricultural
F	FOOD
F1	Food Additives
G	ENERGY
G1	Fuels
H	OTHER CHEMICALS
H1	Polymers
H2	Polyunsaturates
H3	Solvents
H4	Miscellaneous Chemicals
J	CELL CULTURE
J1	Animal Cell Culture
J2	Plant Cell Culture
K	BIOCATALYSIS
K1	Isolation and Characterization
K2	Application
L	PURIFICATION
L1	Downstream Processing
M	WASTE DISPOSAL
M1	Industrial Waste Disposal