



Research Support Area VALORIZATION AND TECHNOLOGY TRANSFER OFFICE



SAPIENZA
UNIVERSITÀ DI ROMA

***The exploitation of research results:
from patent filing to licensing***

Bucarest, March 30th 2023

Paola Ciaccia
Head of Patents and Licensing Unit



Sapienza Valorization and Technology Transfer Office

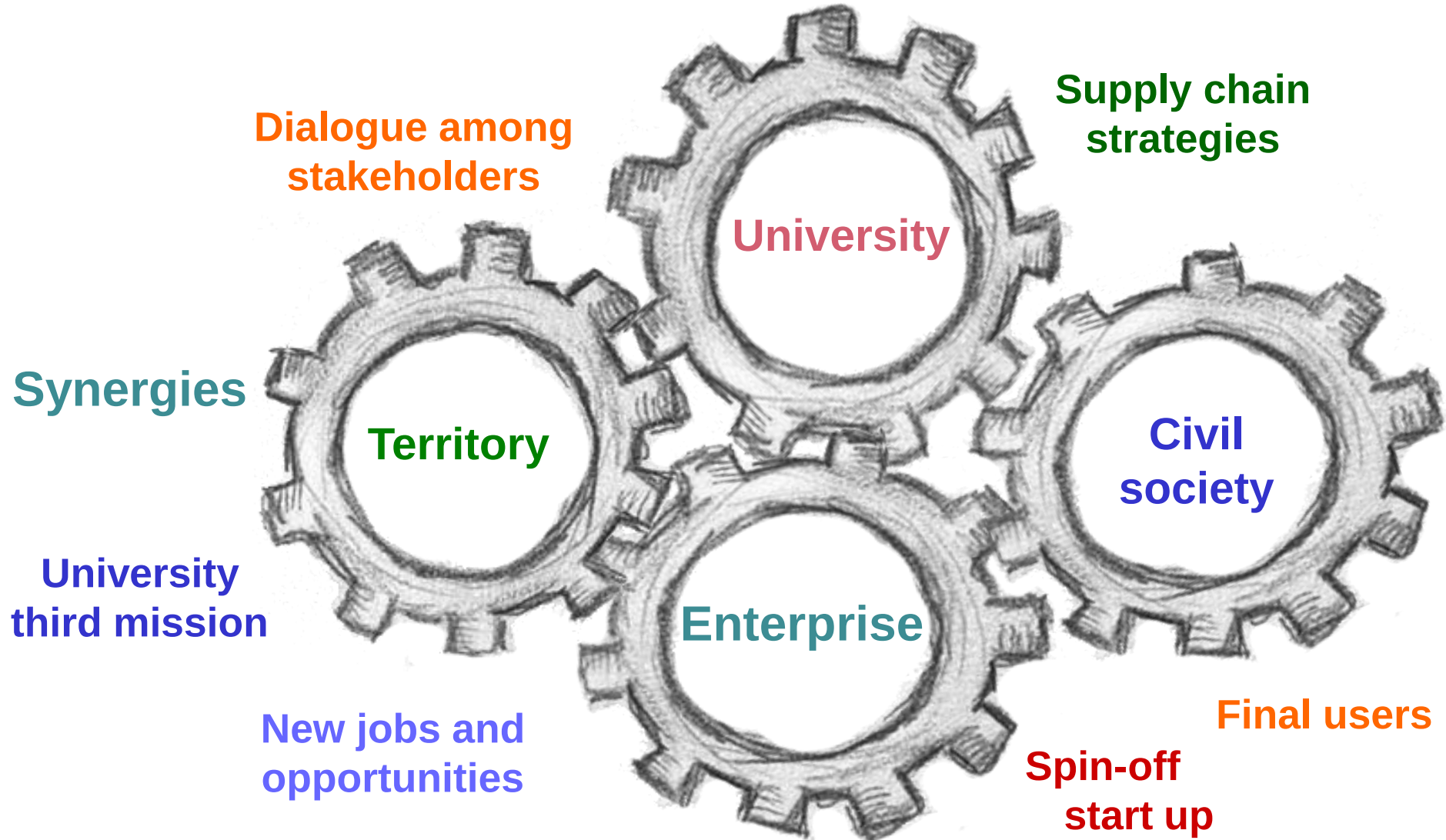
Three working units:



- ❖ Patents and licensing
- ❖ Strategic partnership and start-ups
- ❖ Agreements and Relations with Companies and Community

- ❑ Support Sapienza researchers in transforming ideas into IP based on their findings
- ❑ Launching start-ups in innovative fields based on research and teaching activities
- ❑ Cooperation with enterprises, by supporting and sustaining the activities of Sapienza's research structures and groups

The research supply chain



Patents and Licensing Office Commitment

- ❑ Providing guidance in planning an effective **IP protection strategy**;
- ❑ Assisting in **technical and market assessments** and actively market Sapienza technologies to industrial partners.
- ❑ Promoting Patent's portfolio through outsource **broker companies**, in order to license or grant the IP to those who are interested in acquiring them;
- ❑ Coordinating **brand valorization** activities for Sapienza.
- ❑ Monitoring and maintaining the **University patent's portfolio**;

The different types of IP (I)

Legal right

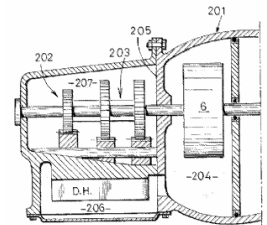
What for?

How?

Patents

New inventions

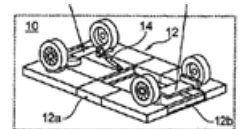
**Application and
examination**



Utility models

New inventions

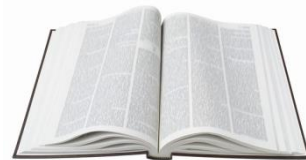
**Application and
registration**



Copyright

**Original creative or
artistic forms**

**Exists
automatically**



The different types of IP (II)

Legal right	What for?	How?
Trade marks	Distinctive identification of products or services	Use and/or registration
Registered designs	External appearance	Registration
Trade secrets	Valuable information not known to the public	Reasonable efforts to keep secret



What is a patent?

(19)  (11) EP 1 535 121 B1

(12) EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent: 25.08.2010 Bulletin 2010/34 (51) Int. Cl.: G05B 19/02 (2006.01) G05B 19/00 (2006.01)

(21) Application number: 03728962.6 (86) International application number: PCT/US2003/015459

(22) Date of filing: 16.05.2003 (87) International publication number: WO 2003/105553 (04.12.2003 Gazette 2003/49)

(54) SYSTEM AND METHOD FOR AUTOMATICALLY SETTING UP A UNIVERSAL REMOTE CONTROL
SYSTEM UND VERFAHREN ZUM AUTOMATISCHEN EINRICHTEN EINER UNIVERSALEN FERNBEDIENUNG
SYSTEME ET PROCEDE PERMETTANT DE REGLER AUTOMATIQUEMENT UNE TELECOMMANDE UNIVERSELLE

(84) Designated Contracting States: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR • LILLENES, Robert, P., Cypress, California 90630-4841 (US) • ARLING, Paul, D., Irvine, CA 92620 (US)

(30) Priority: 20.05.2002 US 151635

(43) Date of publication of application: 01.06.2009 Bulletin 2009/22 (74) Representative: Stephen, Robert John Olwang LLP 90 High Holborn London WC1V 6XX (GB)

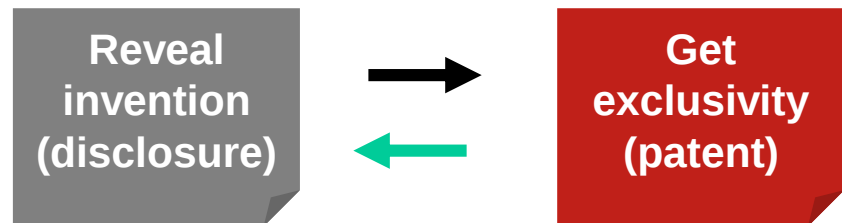
(73) Proprietor: UNIVERSAL ELECTRONICS, INC., Cypress, CA 90630-4841 (US) (56) References cited: EP-A-1 198 069 EP-A2-0 780 990 WO-A-00/7738 WO-A-01/91950 WO-A-01/69697 US-A-5 410 326 US-A-5 646 608 US-A-5 742 730 US-A-6 104 334

(72) Inventors: • HAYES, Patrick, H., Mission Viejo, CA 92691 (US) • CONWAY, JR., James, N., Laguna Beach, CA 92651 (US)

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Printed by Jouve, 75007 PARIS (FR)

- A legal title which grants the holder
 - the exclusive right to prevent others from making, using or offering for sale, selling or importing a product that infringes his patent without his authorisation
 - in countries for which the patent was granted
 - for a limited time (up to 20 years).
- In return for this protection, the holder has to disclose the invention to the public.



Patent applicant



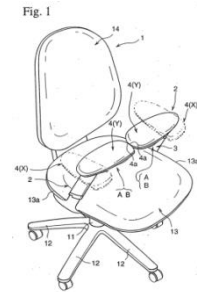
Public

Patents are granted in nearly every country in the world!

What exactly can be patented?

Patents protect inventions which solve technical problems:

- chemical substances, pharmaceuticals
- processes, methods, uses
- products, devices, systems



For an invention to be patented, it must usually be

- ✓ **new** to the world (i.e. not available to the public anywhere in the world)
- ✓ **inventive** (i.e. not an "obvious" solution), and
- ✓ susceptible of **industrial application**

And what CANNOT be patented?

- discoveries, theories and Mathematics method;
- aesthetic creations, schemes, rules and methods for carrying out intellectual acts;
- discovery of substances available in nature;
- inventions contrary to public order, morality and public health
- In most countries, patents are not granted for business methods or rules of games as such, or for methods of treatment, diagnostics and surgery on the human or animal body

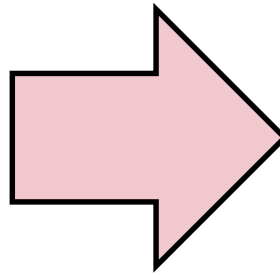
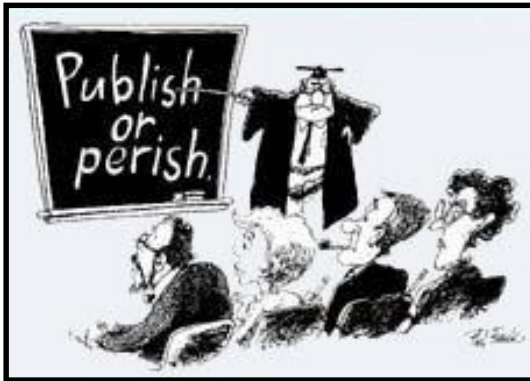
Reasons for patenting

**Patenting is a (moral) duty,
it means creating value!**



- ➡ **a granted patent certifies the absolute originality of one's research**
- ➡ **an exploited patent demonstrates the usefulness of one's scientific work**
- ➡ **an exploited patent generates a virtuous circle of financing**

Patenting as a value



Cultural barriers

Attention to social progress

distance from the return on investment

Long time horizon

Organizational barriers

Lack of technical and management skills

Few economic and social incentives

*Networking between researchers
TTOs and patent agents*

The four main pillars of IP management

Implementation

Tools, processes, recommendations, guidelines
→ increase in quality, integrity, transparency and efficiency

Creating opportunities

- Awareness creation
- Teaching & training
- IPR support
- Technology scouting
- Micro/seed-funding
- Acknowledgment and awards

Evaluation

Patent and
Technology
Innovation
Committee

**IP
protection**

Exploitation

- Business strategies
- Licence agreements
- Spin-outs
- Assignments/sales

Source: EPO/OHIM

Intellectual Property Teaching Kit – IP Management

IP policies: rules and regulations.

- **Preserving confidentiality of information**
 - **Determining inventorship and ownership**
 - **Reward system**
 - **Publications**
 - **Reporting of inventions**
 - **Assessing third-party rights**
- 

Tools and processes

- **Confidentiality** → Non-disclosure agreements
- **Capture** → Lab notebooks/work journals
- **Reporting** → Invention disclosures
- **Protection** → IPR (patent, design, copyright...) and prior art search
- **Collaborations** → IP provisions in contracts



The invention disclosure form

- When and in what **situation was the invention conceived?** Was it developed within funded research projects?
- Main features of the invention, **technical problem solved, advantages / disadvantages** compared to existing products in the same application area.
- **Keywords** and description of the **background** and the relevant prior art of which the inventors are aware in the field of the invention (as publications, oral disclosures, PhD theses, patents, registrations, commercial products, etc.), including any **pre-disclosure** by the inventors themselves.
- Possible **applications and markets** of reference. Has the invention been made / tested / prototyped? Indicate the **TRL** (Technology Readiness Level) of the invention.
- existence of **third party interests and / or industrial subjects** on the invention, already verified. Mention any secrecy commitments signed by third parties or additional agreements entered into in this regard.

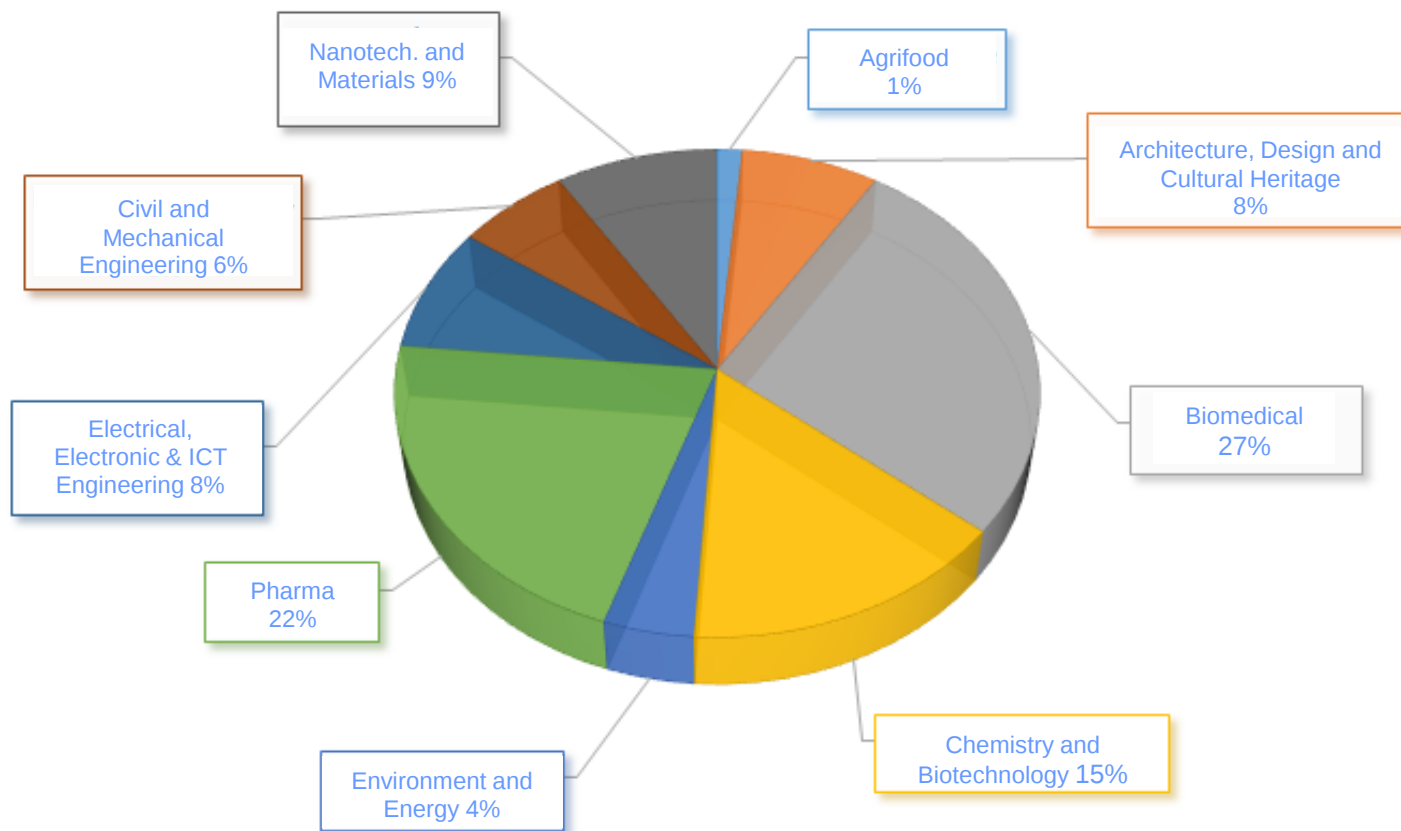
Securing Research Collaborations

- Definitions of IP used and created in the project
- How it will be managed
- Ownership and access rights
- Ownership and access to improvements to IP
- Who will file and prosecute patents
- Sharing of costs, risks and returns
- Terms for publications

The TT actions in support of inventors

- ❑ The procedure is focused on establishing the most **active cooperation between the office and the inventors** starting from the first meetings, after the filing of the patent
- ❑ The inventor cooperation is essential to find contacts which might be interested in the new technology.
- ❑ The goal is to sign as a first step a **confidential agreement** regarding the patent and the patented technology and eventually finalizing a contract with them
- ❑ Inventors can also personally get in contact with companies and, in this case will promptly give information to the Office in order to have its support in managing **commercial negotiations**

Sapienza Patent's Portfolio field application in %



<https://www.uniroma1.it/en/pagina/patent-portfolio>

Single use device for one or more introduction, treatment and withdrawal of sterile biological samples with constant air pressure.

KEYWORDS

- ☐ SINGLE-USE
STERILE DEVICE
- ☐ PURIFICATION AND
MANIPULATION
BLOOD CELLS
- ☐ INFECTION
DIAGNOSIS
- ☐ SCINTIGRAPHY
- ☐ WHYTE BLOOD
CELLS
- ☐ PLATELETS
- ☐ RED BLOOD CELLS

AREA

- ☐ BIOMEDICAL

CONTACTS

➤ PHONE NUMBERS
+39.06.49910888
+39.06.49910855

➤ EMAIL
u_brevetti@uniroma1.it

Priority Number

n. 102004901235692
(ex - RM2004A000397) _ 04.08.2004.

Patent Type

Patent for invention.

Ownership

Sapienza University of Rome 100%.

Inventors

Alberto Signore, Alessio Annovazzi.

Industrial & Commercial Reference

Cell purification for biological samples for Orthopaedic, Haematological, Immunological or Nuclear Medicine use (radiolabeled for scintigraphy).

Time to Market

Device with EC approval, produced in Italy and commercialized in Europe as Leukokit®.

<http://www.leukokit.com/home.htm>

LICENSED

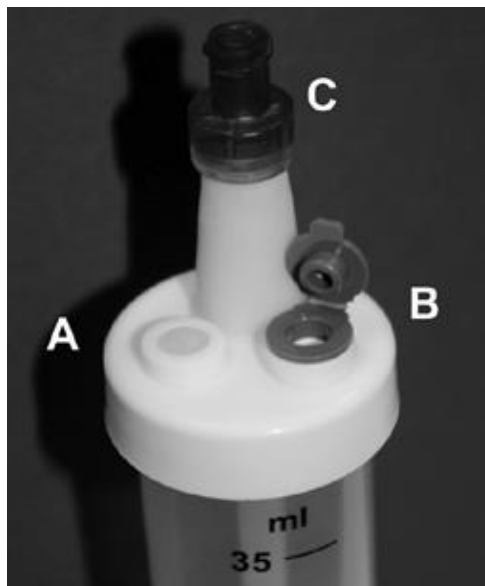


Fig. 1 View of the upper part of the device where the three valves are highlighted.

- Valve A (inlet) for the entry of substances and reagents.
- Valve B for the balance of internal pressure.
- Valve C (outlet) for the exit of substances.

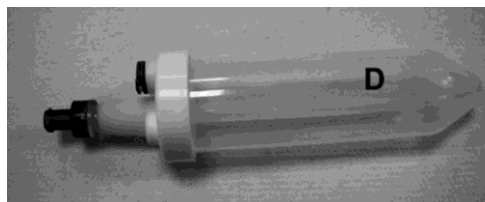


Fig. 2 Side view of the device from which it can be seen the internal pipette (D) for withdrawing liquids or cells from inside.

Abstract

Sterile, single use, device with constant pressure, that allows the separation and sterile manipulation of cell sub-populations (mixed leukocytes, granulocytes, lymphocytes, platelets or red blood cells) from blood or other biological fluids (synovial fluid, liquor, pleural or peritoneal exudates, etc.). Such cellular preparations can be useful in Haematology and Immunology (for morpho-functional studies), in Orthopaedics (for the preparation of platelet concentrates) and in Nuclear Medicine (for separation and labeling of blood cells with radioactive isotopes for scintigraphic purposes for the diagnosis of thrombosis with platelets, occult bleedings with red blood cells, or occult infections with leucocytes/granulocytes).

Publications

- ❖ Signore A, Glaudemans AW, Malviya G, Lazzeri E, Prandini N, Viglietti AL, De Vries EF, Dierckx RA. Development and testing of a new disposable sterile device for labelling white blood cells. Q J Nucl Med Mol Imaging. 2012 Aug;56(4):400-8.
- ❖ Lheureux N, Legrand JF, Mackowiak A, Semah F, Huglo D. Évaluation du Leukokit® face à la méthode native de radiomarquage des leucocytes autologues: l'expérience lilloise. Médecine Nucléaire. 2013; 37(5):171-2. <http://dx.doi.org/10.1016/j.mednuc.2013.03.140>



SAPIENZA
UNIVERSITÀ DI ROMA

ASuRTT _ UFFICIO VALORIZZAZIONE E TRASFERIMENTO TECNOLOGICO
SETTORE BREVETTI E TRASFERIMENTO TECNOLOGICO

➤ <http://uniroma1.it/ricerca/brevetti>

Single use device for one or more introduction, treatment and withdrawal of sterile biological samples with constant air pressure.

Technical Description

This is a sterile disposable device, consisting of a 40 ml plastic vial, centrifugable and equipped with three valves: an inlet valve sealed with dialysis plastic, guaranteed sterile for 200 perforations, an output valve equipped with a 0.22 μm sterile filter, that prevents accidental entry of air or other contaminants, and a valve for internal pressure balance.

This system is in all respects and according to the EMA nomenclature, a miniature "Isolator" system for the purification and sterile manipulation of biological fluids. Inside the device, and connected to the output valve, is connected a plastic pipette of adjustable length, for the aspiration of liquid or cells from the bottom of the vial (pellet) or just above the pellet itself.



Fig. 3
Image of device filled with cell-rich plasma.

After centrifugation the cell-free plasma is withdrawn with the syringe connected to the output valve (Fig.1 C) and white-blood cells remain at the bottom of device.

Technologies & Advantages

In the context of the sterile manipulation of blood cells, this device has the main advantage of constituting a "mini-isolator" in agreement with EMA nomenclature.

Therefore, it is possible to manipulate blood, cells and biological fluids, in a sterile, apyrogenic way, of various patients simultaneously, in a class D environment, as required by law.

It is, however, possible to handle small volumes, maximum 40 ml per vial, or, alternatively, one can use multiple devices for the same patient.

A further advantage is, therefore, that of avoiding the use of a sterile Class A hoods and a sterile Class B environment, for the manipulation of biological cells and liquids.

Finally, this device, having its inside completely isolated from the external environment, provides protection to the operator from any pathogen present in the patient's processing liquid (viruses, bacteria, toxic substances, drugs, etc.) and, of course, protects the patient's preparation inside, from possible external contamination. Its use does not require special staff preparation being very easy to learn.

Applications

The device has several applications. It is generally used to separate cells from serum of a patient's blood, but it could also be used with other biological fluids (exudates, serum from evacuative punctures, pleural fluid, ascitic fluid, etc.).

The test liquid is inserted through a syringe into the device via the inlet valve. Then any reagents for the sedimentation can be added or to create a density gradient, followed by the centrifugation for the separation of cells from serum.

The two phases can be withdrawn separately through the outlet valve thanks to the pipette included inside the device.

The cells thus obtained can be used for diagnostic or therapeutic purposes or simply to analyse their morphology and/or function.

One of the most frequent use is its inclusion in a marketed kit with syringes and washing media (Leukokit®) for the separation of leukocytes from peripheral blood and their labeling with radioactive isotopes for their subsequent administration in the donor patient to identify the sites of occult infection by a scintigraphy.

CONTACTS

➤ PHONE NUMBERS
+39.06.49910888
+39.06.49910855

➤ EMAIL
u_brevetti@uniroma1.it



SAPIENZA
UNIVERSITÀ DI ROMA

ASuRTT _ UFFICIO VALORIZZAZIONE E TRASFERIMENTO TECNOLOGICO
SETTORE BREVETTI E TRASFERIMENTO TECNOLOGICO

➤ <http://uniroma1.it/ricerca/brevetti>

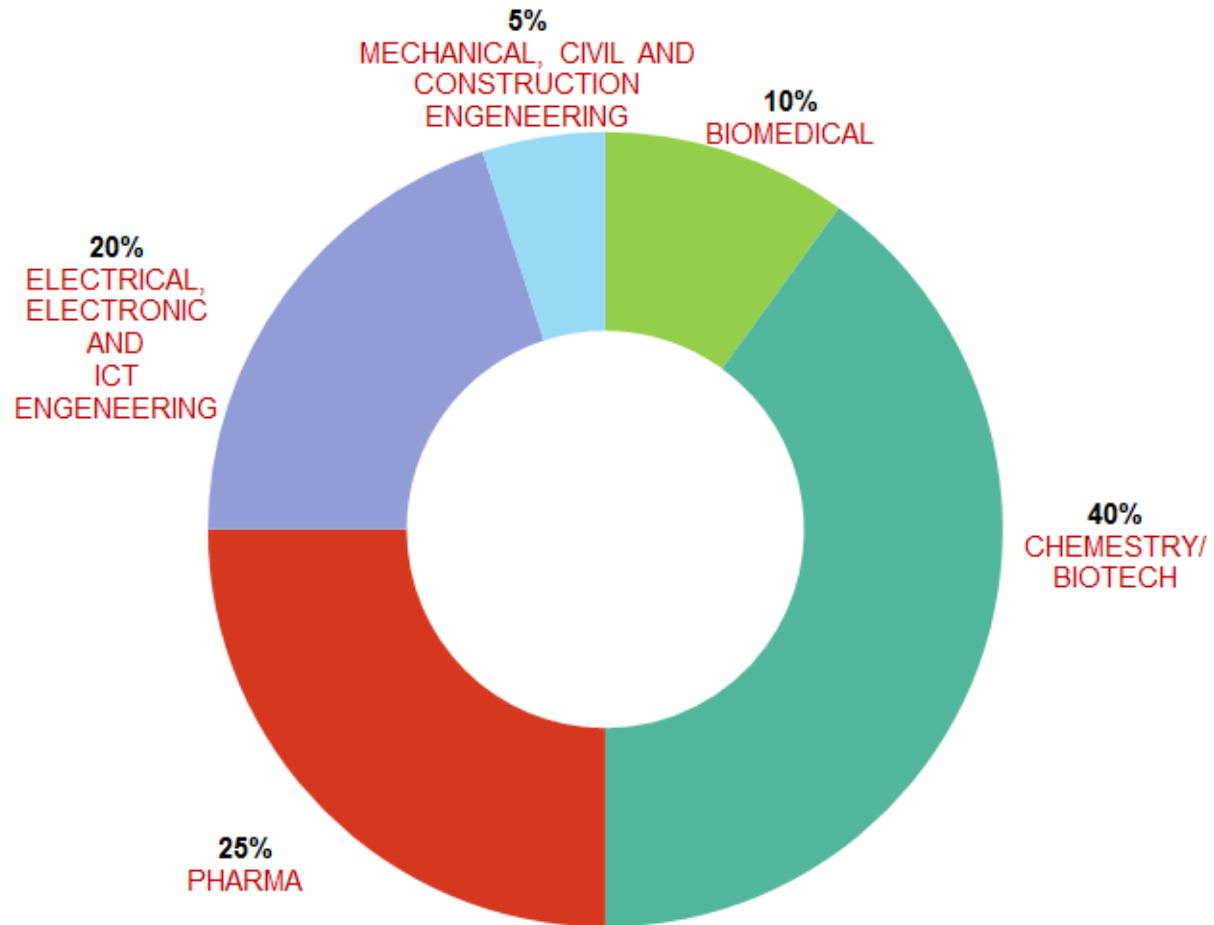
Benefits of licensing

Licensors	Licensees
▪ Create new source of revenues ▪ Access new territories and markets ▪ Influence market acceptance for technology and products ▪ Create production and supply partnerships	▪ Gain access to new technologies, turn-key products and processes and new markets ▪ Reduce or avoid R&D costs and associated risks ▪ Provide competitive advantage and IPR protection ▪ Increase asset value of business

The key points of a licensing contract in Sapienza

- Initial fee or lump sum
- Royalties payment (usually % on net sales)
- Annual fees or milestones if present
- Patent's costs to be paid by the licensee
- When possible achieving the draft of a research collaboration agreement to finance future developments

Distribution of license agreements by scientific area





Research Support Area VALORIZATION AND TECHNOLOGY TRANSFER OFFICE



SAPIENZA
UNIVERSITÀ DI ROMA

Thank you for your attention!

paola.ciaccia@uniroma1.it
u_brevetti@uniroma1.it