



**EPFL**

# **Entrepreneurship in Food & Nutrition Science**

## **Course 7 – Intellectual Property Rights**

# Intellectual Property Rights

IP relates to any original creation of the human intellect such as artistic, literary, technical, or scientific creations.

Intellectual property rights (IPR) refers to the legal rights given to the inventor or creator to protect their invention or creation for a certain period of time.

Designs	Appearance/Shape of product (25 y)	Technical IP
Patents	Inventions limited exclusive rights (~20 y)	
Trade Secret	Info keep secret (know-how, recipes, etc.)	
Trademark	Branded products distinctive sign (indefinite)	
Copyright	Literary, dramatic, artistic works (Life plus 70 y)	



# What is a technical invention?

An invention is a technical solution to technical problem

Example:

Enhance sweetness perception  
without increasing sugar content

Technical problem



Specific lactic acid bacteria identified  
to increase sweetness perception

Technical solution

= Invention that may be patented

- Patent law generally defines what is not an invention and this list may **differ across jurisdictions**.
- For example, in Europe, the following is not considered as an invention:

**DISCOVERIES,  
SCIENTIFIC THEORIES  
AND MATHEMATICAL  
METHODS**

(e.g. discovery of a  
planet)



**AESTHETIC  
CREATIONS**

(e.g. original shape  
for a bottle),



**PLAYING GAMES,  
MENTAL/BUSINESS  
METHODS, AND PROGRAMS  
FOR COMPUTERS**

(e.g. board game)



**PRESENTATION OF  
INFORMATION**

(e.g. computer  
interface)



**INVENTIONS  
CONTRARY TO  
“ORDRE  
PUBLIC”/MORALITY**  
(e.g. drug)



**PLANT OR  
ANIMAL  
VARIETIES**  
(e.g. new breed)



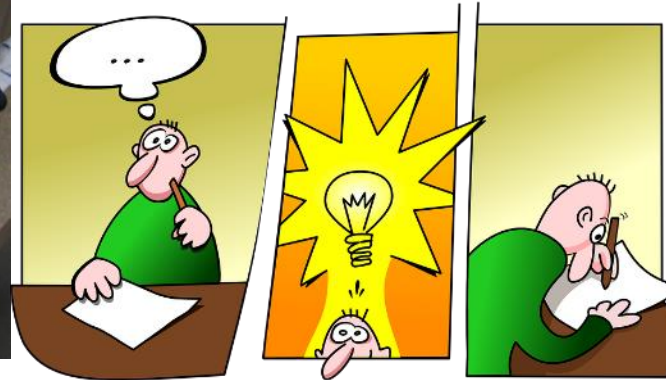
**THERAPEUTIC, SURGERY  
OR DIAGNOSTIC  
METHODS ON  
HUMAN/ANIMAL BODY**  
(e.g. method for  
providing chemotherapy  
to a patient).





# What is an invention?

Starting from a technical challenge, an invention uses technology to provide a technical solution !



All essential features of the invention must be described (how it works)

Doesn't have to be 'targeted', can be accidental...



1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

2. Once the problem is identified, the next step is to define the objectives and goals of the project. This helps to clarify what needs to be achieved and provides a clear direction for the work.

3. The third step is to develop a plan or strategy to address the problem. This involves breaking down the problem into smaller, manageable tasks and determining the resources needed to complete them.

4. The fourth step is to implement the plan. This involves putting the strategy into action and monitoring progress to ensure that the objectives are being met.

5. Finally, the fifth step is to evaluate the results of the project. This involves assessing the outcomes against the objectives and identifying any areas for improvement or further action.

[45] **Date of Patent:** Mar. 16, 1993

2,729,193	1/1956	Scholl	118/202
2,750,942	6/1956	Robson	128/156
2,940,868	6/1960	Patchell	117/38
3,031,702	5/1962	Fenselau	117/38
3,174,888	3/1965	Morgan	156/230
3,671,284	6/1972	Unrig	117/21
3,691,140	9/1972	Silver	260/78.5
3,741,786	6/1973	Torrey	117/3.1
3,808,088	4/1974	Kacchigas et al.	161/148
3,811,438	5/1974	Economou	128/156
3,857,731	12/1974	Merrill, Jr. et al.	117/122
3,900,642	8/1975	Michel	428/40
3,967,624	7/1976	Milnamow	128/287
4,004,495	1/1977	Horwat et al.	427/208.6
4,063,559	12/1977	Tritsch	128/287
4,166,152	8/1979	Baker et al.	428/522
4,460,634	7/1984	Hasegawa	428/124

[73] Assignee: Minnesota Mining and Manufacturing Company, St. Paul, Minn.

[22] Filed: Dec. 31, 1986

### Related U.S. Application Data

[60] Division of Ser. No. 662,605, Oct. 19, 1984, abandoned, which is a continuation-in-part of Ser. No. 662,605, Oct. 19, 1984, abandoned.

FOREIGN PATENT DOCUMENTS

1541311 2/1979 United Kingdom .

**Primary Examiner**—Alexander S. Thomas  
**Attorney, Agent, or Firm**—Gary L. Griswold; Walter N. Kirn; Thomas J. Odar

[58] Field of Search ..... 428/194, 198, 211, 343,  
428/40, 202, 201; 427/208.6, 421, 284, 285

[56] **References Cited**

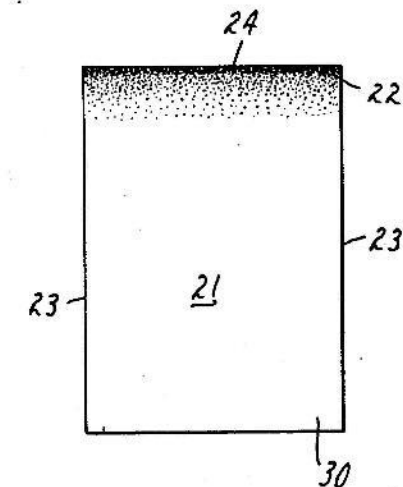
U.S. PATENT DOCUMENTS

1,944,834	1/1934	Bennett, Jr.	154/43
2,000,475	5/1935	O'Donnell	154/43
2,116,289	5/1938	Shepherd	91/50
2,264,629	12/1941	Engert et al.	40/2
2,349,709	5/1944	Evans	117/44
2,386,731	10/1945	Wenzelberger	91/50
2,515,473	7/1950	Plasnik	117/44
2,721,810	10/1955	Schram	117/45

[57] **ABSTRACT**

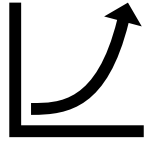
Pressure-sensitive adhesive sheet material having the ability to be applied to paper and removed therefrom without lifting fibers or delaminating the paper. The otherwise conventional pressure-sensitive adhesive is applied to the backing by spraying, resulting in a non-repetitive pattern of adhesive islands.

5 Claims, 1 Drawing Sheet





# Trade Secrets



Commercially valuable information because **secret**



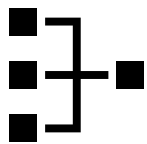
Creates a **competitive advantage**



Subject to **Secrecy Provisions**



Not readily known, identifiable or ascertainable



Can be positive or negative, i.e. what does not work, as well as what does, and not limited to recipes, processes, engineering solutions etc., e.g. customer list



# What is a patent ?

Provides protection for product, process, apparatus, e.g.

- an application of a new discovery
- an improvement to an existing product/process

It is a negative right:

- It confers the right to stop someone from doing something (making, selling, using, keeping, importing, exporting) – but only once granted!

Owning a patent on an invention does not give you the right to work that invention – doing so may infringe someone else's patent or other rights

# What is a patent ?

Must go through an application process first to establish whether requirements are met for a patent to be granted

During the application process, patent examiners will search for relevant documents and analyse the patent application to check it conforms with the requirements for patentability (novelty, inventive step, sufficiency/enablement etc.)

Often, the patent application will be amended during this process, e.g. the scope of the claims will be narrowed

Once granted, it is possible to attack the validity of the patent



# What is a patent ?

It is a national right, so gives protection in one country only

There are no international patents, only international patent applications

It is a piece of 'property', so an asset to the company

Can license patented technology for payment, or in return for other licenses ("cross-licensing")

Can assign rights in return for payment

# What is a patent ?

A patent is a right to:

- **Exclude** unauthorized third parties from manufacturing, advertising and/or selling the claimed invention
- In a **country** where the patent is **granted**
- For max. **20 years**

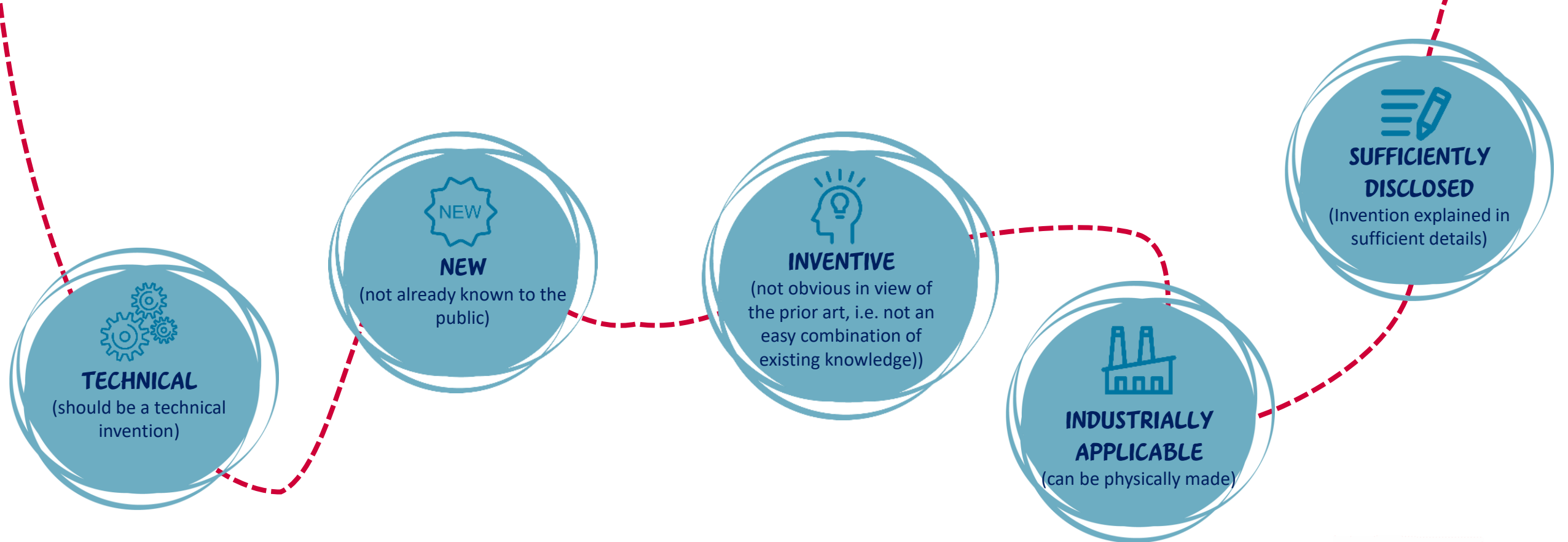
It is not a Monopoly  
It is not a “Right To Commercialize”



# What are the criteria for patentability ?

## 5 CRITERIA FOR PATENTABILITY

AN INVENTION CAN ONLY BE PATENTED IF IT IS:

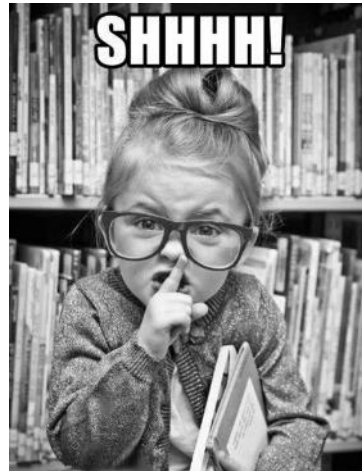




# What is new (novelty)?

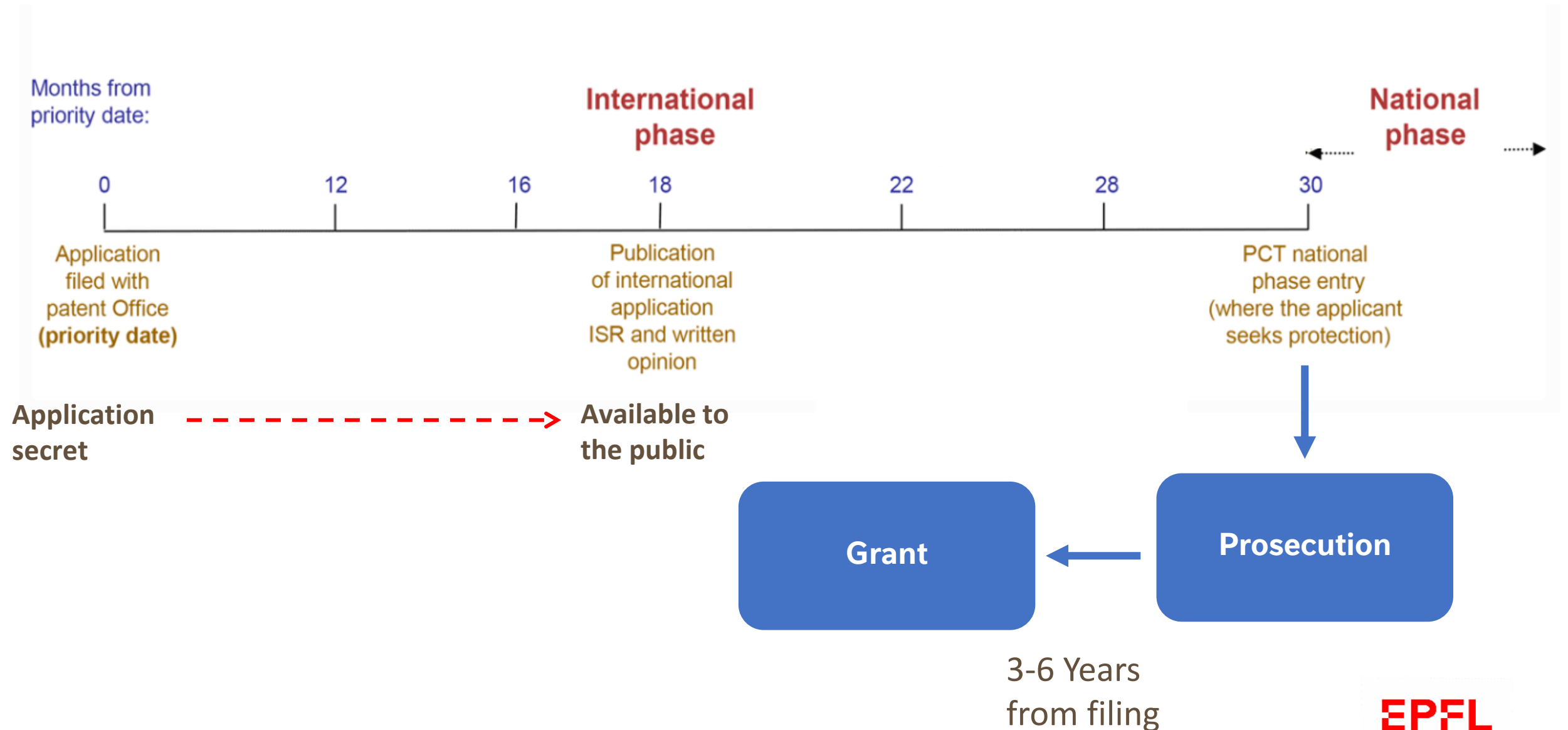
## "NEW" MEANS : UNAVAILABLE TO THE PUBLIC

- Anywhere,
- in any form (written, oral, physical, etc...),
- before the day the patent application is filed.



**NOVELTY CAN ONLY BE PRESERVED IF SECRECY IS MAINTAINED  
BEFORE FILING OF A PATENT APPLICATION**

# Patent lifecycle



## Advantages and disadvantages of getting a patent

### Advantages

- Exclusivity enables investment and higher returns on investment
- Strong, enforceable legal right
- Makes invention tradable (licence, sale)

### Disadvantages

- Reveals invention to competitors (after 18 months)
- **Can be expensive**
- Grant may take 3-5 years
- Patent enforceable only after grant; proceedings can be costly



# Technical IP Summary

	Patents	Trade Secrets
Publicly disclosed vs confidential	Patents publish	Kept confidential, <u>select people</u> and bound by legal contract
Formal application vs private protection	Require a formal application	Onus of protecting trade secrets lies entirely with owner
Requirements	Novel and inventive	Not easily reverse engineered and controlled access
Rights Exclusion vs misappropriation	Exclude everyone else from using the invention, stop infringement practices via legal action	Protection from being misappropriated and once public, limited defences – cannot prevent independent work
Duration	20 years	May be safeguarded in perpetuity
Risks	May not grant	May be patented by a third party and limited protection when public

# Safeguarding Your Invention

## Don'ts

Don't publish any articles, press releases, conference presentations/ posters/ proceedings, lectures or blog posts, etc. before you file

Don't sell any products incorporating the invention before you file

Don't do consumer testing on prototype without an CDA

## Do's

Do consider doing a prior art search early – beginning not end!

Do consider a confidential disclosure agreement (CDA)

File your patent application before anyone else does!

## CONSULT WITH A PATENT COUNSEL

at an early stage



# How Can A Patent Be Used

## Competitive defence

- Presence of IP may provide a bar to competitors launching product
- Could provide a bar to infringement action because of possible counter-attack using the IP

## Offensive strategy

- Aggressive use of IP
- Enforcement of IP rights against competitors
- Can be very expensive!

## Licensing model

- Retain some or all of the IP rights
- Generate a revenue stream

## Generate interest from investors





# Two different words, two different questions, two different finalities

## PATENTABILITY

Does the technology of interest fulfill patentability requirements, e.g. novelty, inventive step etc ?



CREATION OF ASSET



## FREEDOM TO OPERATE

Is the technology of interest within the scope of, i.e. infringing a third party patent ?



RISK MITIGATION

# What is Patent Infringement?

Infringement of a patent is any **unauthorised commercial activity**:

- advertising
- making
- using
- selling
- storing (stock-piling)
- importing

of a **product, device, process** as defined in the **claims** of a **granted patent** in force, in a given **country**.



**National Courts** decide if patent is infringed and infringer must:

- **stop** infringement (advertising, making, selling, etc.)
- **pay** damages
- **pay** for legal expenses

# A brief note on publication numbers

Generally have form of 2 letter country code (EP, JP, GB, US etc.) followed by number  
Applications publish at ~18 months from filing

Publication numbers contain hidden information about a patent's status:

GB and EP applications

- GB 1,234,567A1 or EP 1,234,567A1 : Pending application
- GB 1,234,567B1 or EP 1,234,567B1 : Granted patent
- A1 = publication with search report
- A2 = publication without search report
- A3 = publication of bibliographic information with search report

US applications

- 14/448,583: Application number
- US 2008/1234567 : Published pending application (first four digits = year published)
- US 7,654,321 : Granted patent

# How to search for patents

Useful to:

- Find existing solutions to technical problems
- Track progress of emerging technologies
- See what competition is developing

[Espacenet](#)

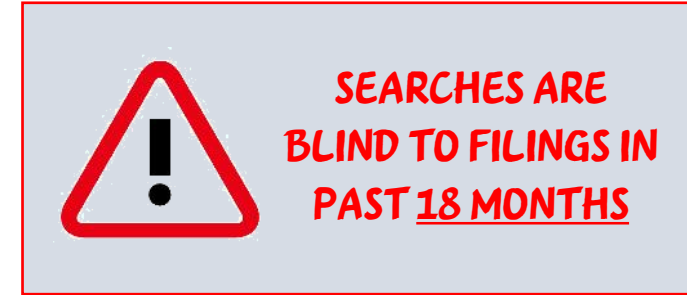


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[Google patent](#)



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# How to search for patents - ESPACENET

Allows for searching by title, title or abstract, publication number, application number, priority number, publication date, applicant, inventor and classification

Will search across range of different countries and regions, including UK, US, international (PCT), Europe (EP), Chinese, Japanese, Korean etc.

Provides text of description and claims with machine translation features for more recent patents

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<https://worldwide.espacenet.com>




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# How to search for patents - ESPACENET

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chocolate

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3 373 results found

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Relevance ▼



☐ (0 patents selected) **Select the first 20 results**

☐ 1. **AERATED CHOCO-MATERIAL**

CA3023931A1 • 2018-03-08 • NESTEC SA [CH]

**Earliest priority: 2016-08-30 • Earliest publication: 2018...**

...There is described a micro **aerated** choco-material having a plastic viscosity before aeration as measured according to ICA method... of from 0.5 to 1.2 m2 per 100g of the **aerated** choco-

☐ 2. **AERATED CHOCOLATE, BAKED AERATED CH...**

JP2010207196A (B2) • 2010-09-24 • MORINAGA & CO

**Earliest priority: 2009-03-12 • Earliest publication: 2010...**

...PROBLEM TO BE SOLVED: To provide **aerated chocolate** and baked **aerated chocolate** each having smooth meltability in the mouth... **chocolate** and the baked **aerated chocolate**. P

Text fields ^

Title

Abstract

Description

Claims

Title or abstract

Title, abstract or claims

Names ^

Inventors

Applicants

Inventors or applicants

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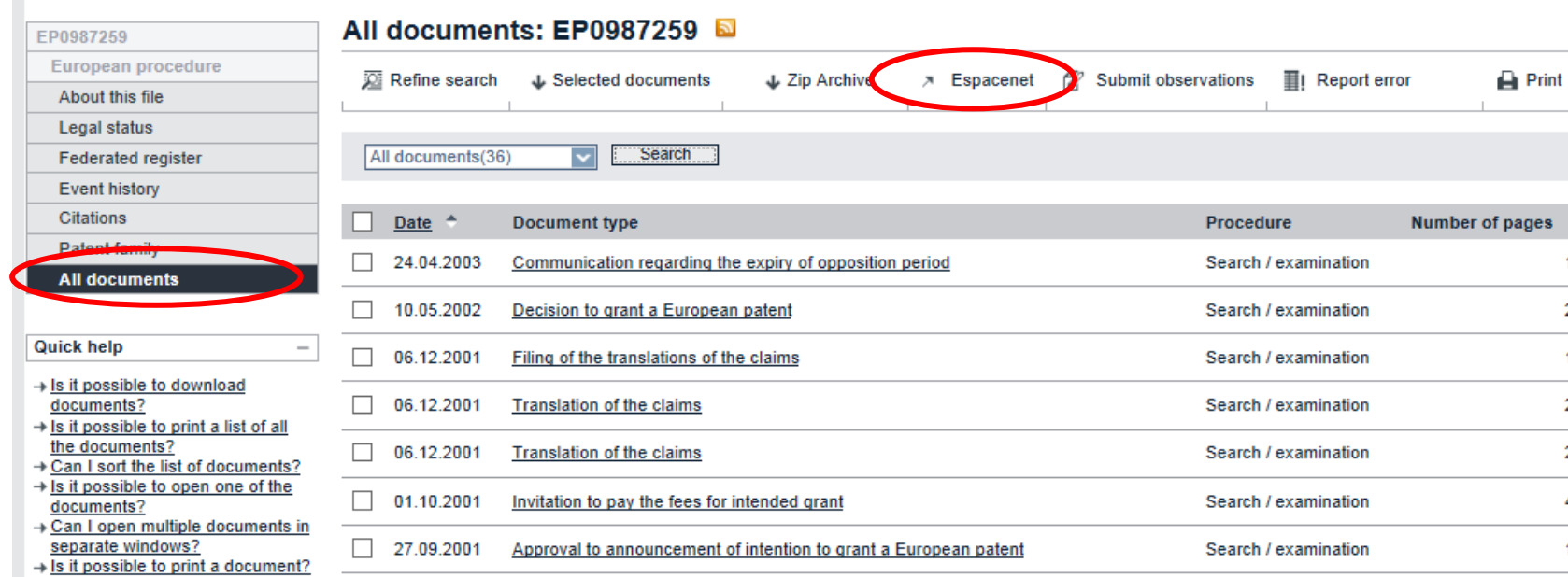
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# How to search for patents – EPO Website

Provides details of applicant, filing and priority dates, inventors, representatives, status of European patents/applications

“**All documents**” tab provides details of prosecution history (communications issued by EPO, responses from applicant, fees paid etc.)

Also links directly to Espacenet



EP0987259

European procedure

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<input type="checkbox"/>	24.04.2003	Communication regarding the expiry of opposition period	Search / examination	1
<input type="checkbox"/>	10.05.2002	Decision to grant a European patent	Search / examination	2
<input type="checkbox"/>	06.12.2001	Filing of the translations of the claims	Search / examination	1
<input type="checkbox"/>	06.12.2001	Translation of the claims	Search / examination	2
<input type="checkbox"/>	06.12.2001	Translation of the claims	Search / examination	2
<input type="checkbox"/>	01.10.2001	Invitation to pay the fees for intended grant	Search / examination	4
<input type="checkbox"/>	27.09.2001	Approval to announcement of intention to grant a European patent	Search / examination	1



<https://register.epo.org/>

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# How to read patents...

Title – usually quite uninformative!

Abstract

Description – may contain:

- Discussion of the field of invention, including any existing technology
- Examples
- Technical information on how to work invention
- Data showing effect of invention (e.g. compared to what is already known in the field)
- Discussion of any figures
- Preferred embodiments

Figures

Claims

# How to read patents...

## As a technical document:

- Usually done when assessing whether or not a patent discloses your invention (i.e. when assessing novelty and/or inventive step), or when seeking information (e.g. about a competitor's process of making a certain product)
- The claims may be misleading
- Focus primarily on the description of the drawings and any examples and consider all different variations
- If your independent claim defines a set of features which are not present in the prior art, it is new

# How to read patents...

## As a legal document:

- Usually done in freedom-to-operate (FTO) situations where it is important to know whether or not your proposed activities will infringe the rights of someone else
- Focus on claims – these define the scope of protection – but will need to know what the words/phrases in the claim mean to determine this!
- Work out which are the independent claims - You need all of the features of any independent claim to infringe
- Individual words, letters, and punctuation all matter – it is a precise, forensic analysis
- Don't expect to “read” a claim – it should be analysed; this can take a long time
- The description and drawings can be used to help to interpret claims



# How to read patents...

The scope of protection of a patent is defined in the claims (found at the end of the document)

- Scope defined by independent claim/claims with all essential features (sets out broadest scope of protection) e.g. "A product comprising X Y Z"
- Two types of independent claim – product or process
- Set of dependent claims
  - Reference to the other claim(s) e.g. *"The product according to claim 1, wherein..."*
  - Defining additional features (i.e. defining a narrower scope of protection within that set out in the independent claim)
  - So-called fallback positions
  - Grouped together where possible

# How to read patents...

**Basic claim: "A furniture having at least three legs."**

- Claim covers all the chairs, tables and every furniture that has at least three legs.
- Granted patent would be a highly valuable patent right, since the scope of the protection is very broad.

**Alternate claim: "A chair having four legs and two armrests."**

- Only covers chairs having exactly four legs and two armrests (does not cover tables, chairs with three legs or chairs with four legs but no armrests).
- Anyone could manufacture and sell chairs with four legs as long as said chairs do not have armrests. Only have right over chairs having four legs and two armrests.

Can see how important each word in a claim is, and how easy it is to make a mistake and file a claim that is too narrow.

# Two Key Rules

## The application must disclose the invention

Because of the next point, it is almost impossible to overcome an objection stating that your application does not disclose the invention sufficiently.

## You cannot add subject matter after filing:

- You filed a patent application disclosing a chair with four legs, but after you receive the search report, you realize that your invention is not new, other chairs with four legs already exist. You quickly figure out a way to make your invention new: by adding two armrests. Although the invention with the addition of the armrests might be new, this amendment is not allowed.
- Another example could be changing a range from 10-100°C to 30-60°C, after realising that 10-100°C is too broad and not novel. However, this amendment is also not allowed, if the range 30-60°C was not mentioned in your application as originally filed.

# How to read patents...

## Examples

A utensil comprising a shallow bowl and a handle extending outwardly from an edge of said bowl.

A utensil comprising a bowl and a handle extending upwardly from an edge of said bowl

# How to read patents...

## Examples

A writing instrument comprising:

- an elongate body having first and second ends and a hollow core; and
- an abradable material for marking a surface located within the core and configured such that at least a portion of the abradable material protrudes from at least one of the first and second ends of the body.

A sheet metal binder clip having

- extremities maintained in juxtaposition by the resiliency of the metal,
- handle receiving and operating jaws formed at said extremities and comprising separated, oppositely disposed duplex cam surfaces and
- handles having opposite ends journaled in said jaws and operating against said cam surfaces.



## Summary 1/2

- Claims define scope of protection – most important for FTO and what you want to protect
- Examples can be used to see what product the patent seeks to protect
- Description useful for understanding background to invention

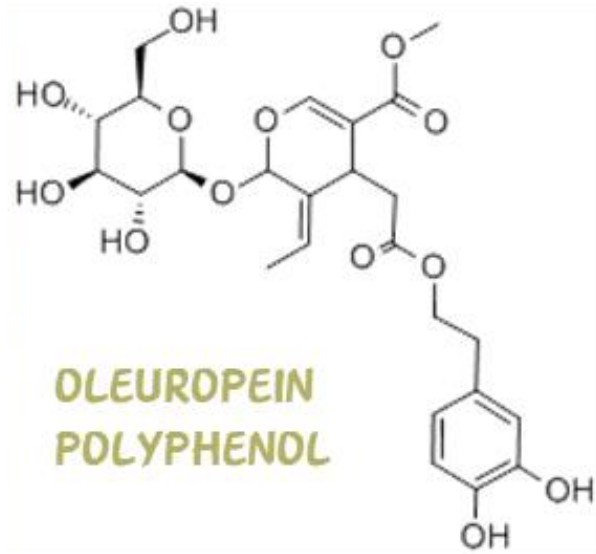
## Summary 2/2

- Consider best form of **IP Rights** to protect your invention (define **IP Strategy**)
- Don't disclose your invention **too early**
- Consider **patentability** and **FTO** (searches)
- Strategy for **blockers** (prior art/competitor patents)

# Thank you!

# Any Questions?

# Example of Oleuropein for muscle energy



**PATENT PROTECTION**

# Patent on Oleuropein for energy and fatigue

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)  
(19) World Intellectual Property Organization  
International Bureau  
(43) International Publication Date  
19 November 2020 (19.11.2020)  
WIPO | PCT



(10) International Publication Number  
**WO 2020/229538 A1**

WO 2020/229538

PCT/EP2020/063329

## TITLE

COMPOSITIONS AND METHODS TO TREAT OR PREVENT METABOLIC  
FATIGUE USING AT THE COMPOUND OLEUROPEIN OR A METABOLITE  
THEREOF

## BACKGROUND

[0001] The present disclosure generally relates to compositions and methods that use at least one of oleuropein or metabolite thereof to manage energy at a cellular level. The compositions and methods can boost mitochondrial function and increase bioenergetics through activation of the mitochondrial calcium uniporter to thereby promote cellular activation.

[0002] Sarcopenia is defined as the age-associated loss of muscle mass and functionality (including muscle strength and gait speed). Muscle functionality and physical ability decline with the loss of muscle mass. Impaired muscle functionality is highly predictive of the incidence of immobility, disability, and mortality in advanced age. With the rising elderly population, sarcopenia becomes increasingly prevalent such that 45% of the elderly U.S. population has moderate-to-severe symptoms. The U.S. health care direct and indirect costs attributable to sarcopenia reach nearly \$19 billion. Therefore, prevention and/or treatment of sarcopenia would have a great impact on the health and quality of life of our society and consequently on the economy associated with health care. Unfortunately, the etiology and the physiopathological mechanism of sarcopenia are still poorly understood, making effective measures for prevention or treatment difficult.

## SUMMARY

[0003] Mitochondria are the primary source of aerobic energy production in mammalian cells and also maintain a large  $\text{Ca}^{2+}$  gradient across their inner membrane, providing a signaling potential for this molecule. Furthermore, mitochondrial  $\text{Ca}^{2+}$  plays a role in the mitochondria in the regulation of ATP generation and potentially contributes to the orchestration of cellular metabolic homeostasis. (Glancy, B. and R. S. Balaban (2012). "Role of mitochondrial  $\text{Ca}^{2+}$  in the regulation of cellular energetics." Biochemistry 51(14): 2959-2973).

(51) International Patent Classification:  
A61K 31/7048 (2006.01) A61P 25/22 (2006.01)  
A61K 33/06 (2006.01) A61P 25/28 (2006.01)  
A61P 3/04 (2006.01) A61P 27/02 (2006.01)  
A61P 3/06 (2006.01) A61P 27/16 (2006.01)  
A61P 3/10 (2006.01) A61P 31/00 (2006.01)  
A61P 9/00 (2006.01) A61P 35/00 (2006.01)  
A61P 13/12 (2006.01) A61P 39/00 (2006.01)  
A61P 25/00 (2006.01) A61P 43/00 (2006.01)

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

### Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

### Published:

- with international search report (Art. 21(3))

(21) International Application Number:  
PCT/EP2020/063329

(22) International Filing Date:  
13 May 2020 (13.05.2020)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
62/847,076 13 May 2019 (13.05.2019) US

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(54) Title: COMPOSITIONS AND METHODS TO TREAT OR PREVENT METABOLIC FATIGUE USING AT THE COMPOUND OLEUROPEIN OR A METABOLITE THEREOF

(57) Abstract: At least one of oleuropein or metabolite thereof can be orally administered to an individual in an amount effective to achieve at least one result that is one or more of (i) improvement in a physiological state linked to metabolic fatigue in one or more cells, (ii) increased mitochondrial energy and mitochondrial calcium uptake in one or more cells, and/or (iii) treatment or prevention of a calcium deficiency / depletion disorder. Additionally or alternatively, the method can treat or prevent a mitochondria-related disease or a condition associated with altered mitochondrial function in an individual in need thereof or at risk thereof.

+ 30 -100 pages of text  
description of the  
invention and field

<https://patents.google.com/patent/WO2020229538A1>

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# Claims and figures are at the end of the patent

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## CLAIMS

The invention is claimed as follows:

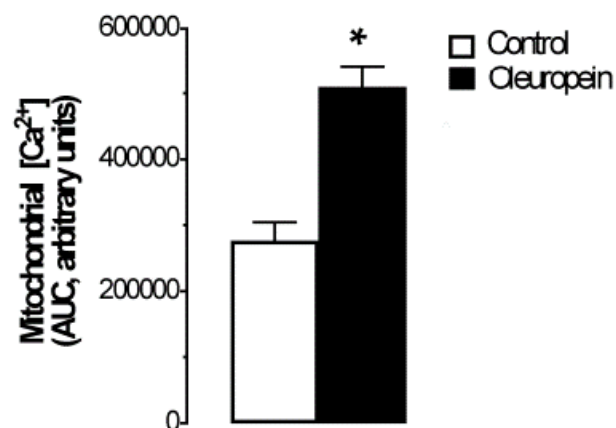
1. A method of achieving at least one result selected from the group consisting of (i) improvement in a physiological state linked to metabolic fatigue in one or more cells, (ii) increased mitochondrial energy and mitochondrial calcium uptake in one or more cells, and (iii) treatment or prevention of a calcium deficiency / depletion disorder, the method comprising orally administering an effective amount of at least one of oleuropein or metabolite thereof to an individual.
2. The method of Claim 1, wherein at least a portion of the one or more cells are part of at least one body part selected from the group consisting of a liver, a kidney, a brain, and a skeletal muscle.
3. The method of Claim 1 or 2, wherein the physiological state linked to metabolic fatigue comprises muscle fatigue or weakness, lack of energy, physical energy, lack of vitality or weakness.
4. The method of any of Claim 1 to 3, wherein the effective amount of at least one of oleuropein or metabolite thereof is orally administered daily for at least one week.
5. The method of any of Claim 1 to 4, wherein the metabolite of oleuropein is selected from the group consisting of oleuropein aglycone, hydroxytyrosol, homovanillyl alcohol, isohomovanillyl alcohol, glucuronidated forms thereof, sulfated forms thereof, derivatives thereof, and mixtures thereof.
6. The method of any of Claim 1 to 5, wherein the effective amount of at least one of oleuropein or metabolite thereof is administered in a composition selected from the group consisting of food compositions, dietary supplements, nutritional compositions, nutraceuticals, beverages, powdered nutritional products to be reconstituted in water or milk before consumption, food additives, medicaments, drinks, petfood, and combinations thereof.

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FIG. 4

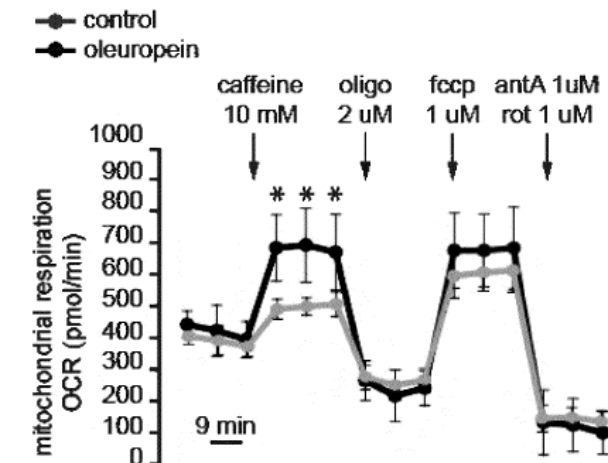


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FIG. 13



# Examples – how to protect (1/2)

INNOVATION	STANDARD CONFIDENTIALITY PROCEDURES – KEEP IN HOUSE	FILE PATENT	HIGHLY CONFIDENTIAL- RESTRICTED TEAM WITHIN COMPANY
Combination of three ingredients that must be declared on pack but enable a surprising reduction in sugar without loss of organoleptic properties.		✓	
Choice of a commercially known flavouring out of 15 possible commercially available options that enables a cost saving.	✓		
Specific processing times, temperatures and concentrations for a commercially available enzyme that enables a significant cost saving but is not detectable in final product. R&D project was long and expensive.			✓
An A.I. toolkit that enables us to screen thousands of ingredient combinations to provide the desired nutritional and cost-saving combinations.			✓
A nozzle for depositing a food product where the nozzle enables a significant reduction in wasted material. We designed the nozzle internally and know that it is not commercially available but it can easily be manufactured using 3-D printing.	✓	✓	✓

## Examples – how to protect (2/2)

INNOVATION	STANDARD CONFIDENTIALITY PROCEDURES – KEEP IN HOUSE	FILE PATENT	HIGHLY CONFIDENTIAL- RESTRICTED TEAM WITHIN COMPANY
Results of research project showing what products cannot be packaged in a range of commercially known paper packaging solutions.	✓		✓
Results of a significant consumer research study highlighting potential key future trends in that category.	✓		✓
A process that could be reverse engineered but is almost certainly the only way to prepare a particular product on an industrial scale.		✓	
A sustainable packaging material that we have prepared on a very small scale and shown to have very good barrier properties but we need third party assistance to test on a commercial scale.		✓	
A process for converting raw materials into known ingredients which enables a very significant cost saving against buying the ingredient from a supplier.			✓