

BÚSQUEDA DE PATENTES Y CRITERIOS DE PATENTABILIDAD

MC HELENA SÁNCHEZ TUAL

ESPECIALISTA EN PROPIEDAD INTELECTUAL
GLOBAL INNOVATION HUBS

¿Qué es la Propiedad Intelectual?

TODA CREACIÓN DEL INTELECTO HUMANO

- Obras literarias, artísticas y científicas
- Interpretaciones y ejecuciones de artistas, fonogramas y las emisiones de radiodifusión
- Invenciones en todos los campos
- Descubrimientos científicos
- Diseños industriales
- Marcas de fábrica, de comercios, servicios, nombres y denominaciones comerciales

PROPIEDAD INTELECTUAL

- LA PROPIEDAD INTELECTUAL ES TODA AQUELLA CREACIÓN DEL INTELLECTO HUMANO Y EN MÉXICO SE PUEDE PROTEGER EN DOS DIFERENTES INSTANCIAS:
 - **INDAUTOR (INSTITUTO NACIONAL DE DERECHOS DE AUTOR)** SE ENCARGA DE LAS OBRAS LITERARIAS, ARTÍSTICAS, INTERPRETACIONES Y EJECUCIONES DE ARTISTAS, FONOGRAMAS, EMISIONES DE RADIODIFUSIÓN, ETC.
 - **IMPI (INSTITUTO MEXICANO DE LA PROPIEDAD INDUSTRIAL)** SE ENCARGA DE LAS INVENCIONES EN TODOS LOS CAMPOS, DESCUBRIMIENTOS CIENTÍFICOS, DISEÑOS INDUSTRIALES, MARCAS DE FÁBRICA, DE COMERCIOS, SERVICIOS, NOMBRES Y DENOMINACIONES COMERCIALES, ETC.

¿ Por qué es importante proteger la Propiedad Intelectual ?

Porque se promueve la innovación y la creatividad al servicio del desarrollo económico, social y cultural del país.

- Esto se logra otorgando derechos exclusivos, morales y patrimoniales, que permite una posición sólida en el mercado.
- Genera un mayor rendimiento de las inversiones al comercializar productos innovadores.
- Da la oportunidad de vender o licenciar.
- Aumenta el poder de negociación.
- Da una imagen positiva.

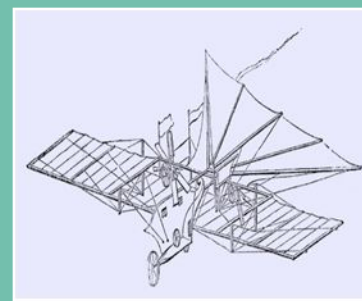
Tipos de Propiedad Intelectual



Derechos de autor



Marcas



Patentes



Diseño Industrial



Modelo de Utilidad



Secreto Industrial

PATENTES

• Es un derecho exclusivo que se concede sobre una invención, el cual es un producto o proceso que por lo general provee una nueva forma de realizar algo u ofrece una nueva solución técnica a un problema.

¿Qué es una patente?

¿Qué tipo de protección ofrece?

• El dueño de la patente tiene el derecho exclusivo para prevenir o detener a otros de explotar comercialmente su patente.

¿Es válida en todos los países?

¿Cuánto tiempo dura su protección?

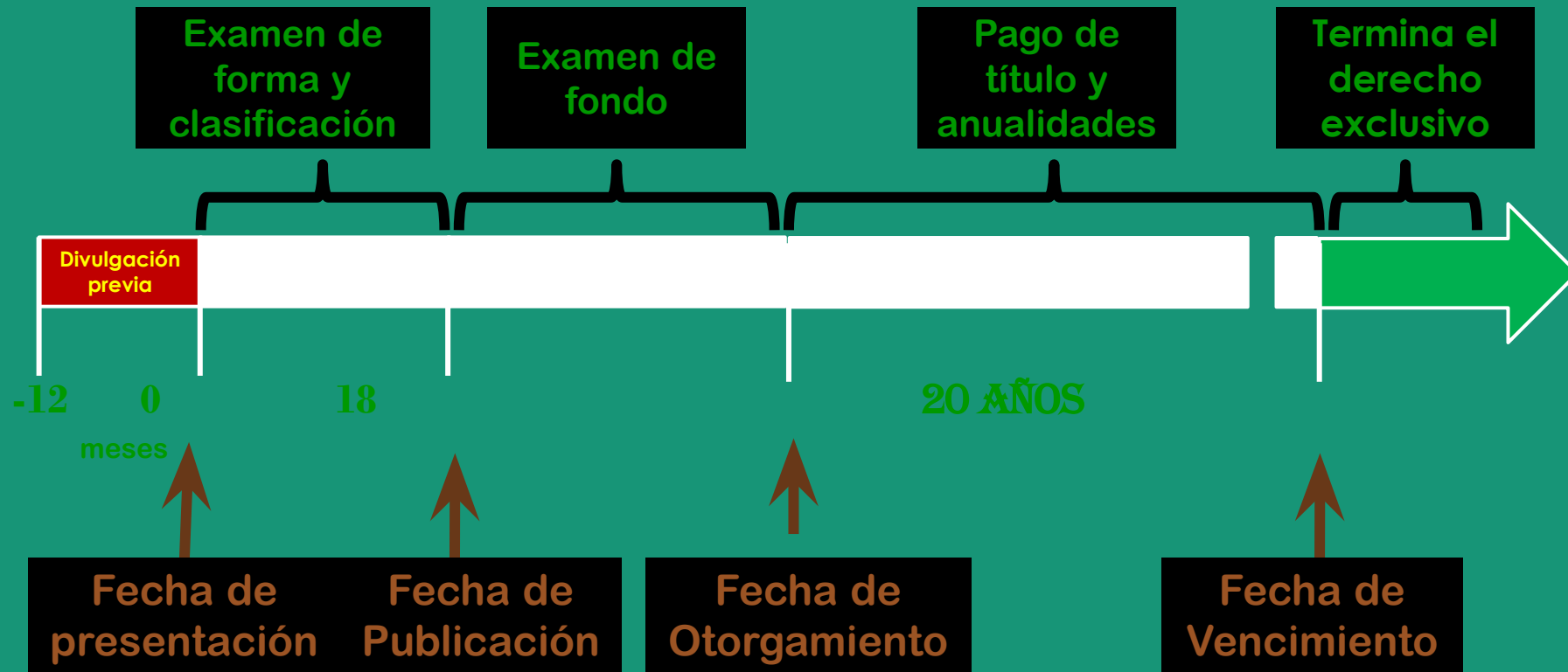
• Las patentes son territoriales. El derecho de exclusividad es aplicable únicamente en el país o región donde se haya solicitado y otorgado la patente.

• La protección tiene una duración de 20 años a partir de la fecha de su solicitud.

Criterios que debe cumplir una patente

- **NOVEDAD:** “se considera nueva invención si en la fecha pertinente prescrita no existiese anterioridad en el estado de la técnica”
- **ACTIVIDAD INVENTIVA:** “se considera que una invención implica una actividad inventiva si aquella no resulta del estado de la técnica de una manera evidente para un experto en la materia”
- **APLICACIÓN INDUSTRIAL:** “se considera una nueva invención si esta puede ser utilizada o fabricada en cualquier tipo de industria”

PROCEDIMIENTO ADMINISTRATIVO DE PATENTE EN MÉXICO



SECCIONES DE UNA PATENTE EN MÉXICO

DESCRIPCIÓN - TÍTULO

- OBJETO DE LA INVENCION

- ANTECEDENTES

- BREVE DESCRIPCIÓN DE LAS FIGURAS

- DESCRIPCIÓN DETALLADA DE LA INVENCION

- EJEMPLOS DE REALIZACIÓN

- REIVINDICACIONES

- RESUMEN

FIGURAS

*sin bordes

* líneas sólidas

* blanco y negro

* sin palabras



US 20190060341A1

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2019/0060341 A1**
LEAL DÍAZ et al. (43) **Pub. Date: Feb. 28, 2019**(54) **AGAVACEAE EXTRACT COMPRISING STEROIDAL SAPONINS TO TREAT OR PREVENT METABOLIC DISORDER RELATED PATHOLOGIES**(71) Applicants: **INSTITUTO TECNOLÓGICO Y DE ESTUDIOS SUPERIORES DE MONTERREY**, Monterrey, Nuevo León (MX); **INSTITUTO NACIONAL DE CIENCIAS MÉDICAS Y NUTRICIÓN SALVADOR ZUBIRÁN**, Mexico, D.F. (MX); **AGMEL S.A. DE C.V.**, Monterrey, Nuevo León (MX)(72) Inventors: **Ana María LEAL DÍAZ**, Monterrey, Nuevo León (MX); **Janet Alejandra GUTIÉRREZ URIBE**, Monterrey, Nuevo León (MX); **Nimbe TORRES Y TORRES**, Mexico, D.F. (MX); **Armando Roberto TOVAR PALACIO**, Mexico, D.F. (MX); **Lilia Guadalupe NORIEGA LÓPEZ**, Mexico, D.F. (MX)(73) Assignees: **INSTITUTO TECNOLÓGICO Y DE ESTUDIOS SUPERIORES DE MONTERREY**, Monterrey, Nuevo León (MX); **INSTITUTO NACIONAL DE CIENCIAS MÉDICAS Y NUTRICIÓN SALVADOR ZUBIRÁN**, Mexico, D.F. (MX); **AGMEL S.A. DE C.V.**, Monterrey, Nuevo León (MX)(21) Appl. No.: **15/768,674**(22) PCT Filed: **Oct. 16, 2015**(86) PCT No.: **PCT/IB15/02111**

§ 371 (c)(1),

(2) Date: **Apr. 16, 2018****Publication Classification**(51) **Int. Cl.***A61K 31/7048* (2006.01)*A61K 36/88* (2006.01)*A61P 3/00* (2006.01)*A61P 3/06* (2006.01)*A61P 3/10* (2006.01)*A61P 1/14* (2006.01)*A61K 45/06* (2006.01)*A61P 3/04* (2006.01)(52) **U.S. Cl.**CPC *A61K 31/7048* (2013.01); *A61K 36/88* (2013.01); *A61P 3/00* (2018.01); *A61P 3/04* (2018.01); *A61P 3/10* (2018.01); *A61P 1/14* (2018.01); *A61K 45/06* (2013.01); *A61P 3/06* (2018.01)

(57)

ABSTRACT

A saponin and sapogenin extract recovered from plants of the Agavaceae family in the form of an extract or its purified form which has beneficial effects on the organism of mammals in relation to the prevention or treatment of metabolic disorders such as obesity, metabolic syndrome, diabetes and their related pathologies in mammals, including humans and further beneficial effects on lipid metabolism, glucose metabolism, energy expenditure, and gut microbiota health. Other aspects of the invention comprise a composition made of said saponin and sapogenin extract and methods for using said extract.

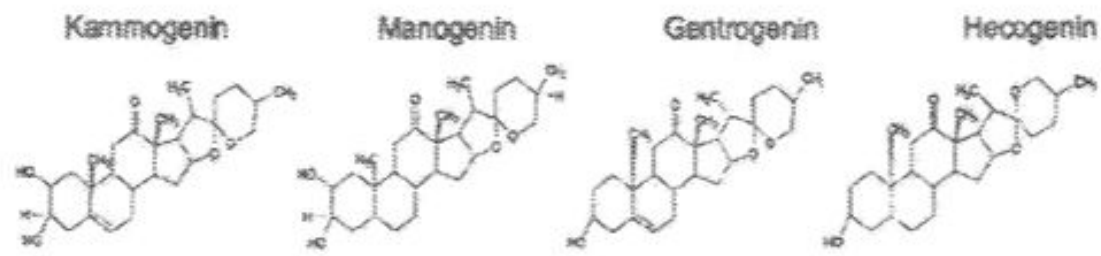


FIGURE 1

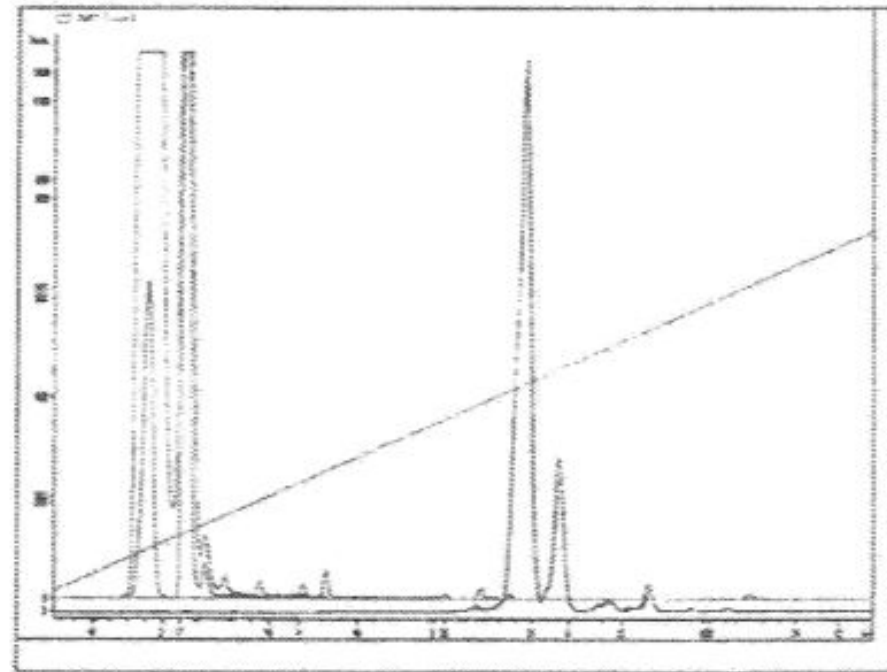


FIGURE 2

AGAVACEAE EXTRACT COMPRISING STEROIDAL SAPONINS TO TREAT OR PREVENT METABOLIC DISORDER RELATED PATHOLOGIES

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to the use of steroidal saponins and sapogenins recovered from plants of the Agavaceae family in the form of an extract or its purified form, in the preparation of a composition to be administered orally to treat or prevent metabolic disorder related pathologies in mammals.

Problem Definition

[0002] Several metabolic disorders are a current public-health problem on the rise. These disorders or conditions are characterized by abnormal weight gain, energy use or consumption, altered metabolism of carbohydrates, lipids proteins, nucleic acids or a combination. Examples of metabolic disorders include but are not limited to metabolic syndrome, insulin resistance, insulin deficiency, type 2 diabetes mellitus, glucose intolerance, hyperglycemia, accumulation of visceral adipose tissue, adipocyte hypertrophy, hyperleptinemia, non-alcoholic fatty liver disease, hepatic steatosis, brown adipose tissue deterioration, impaired thermogenesis, dyslipidemia, mitochondria dysfunction, impaired muscle oxidative capacity, cardiovascular disease, inflammatory and immune disorders.

[0003] A main metabolic disorder is the metabolic syndrome (MetS), is a cluster of risk factors associated with cardiovascular disease (CVD), type 2 diabetes mellitus, stroke and kidney disease. It is a major worldwide clinical challenge that affects 20-40% of the world's adult population (Grundy, 2015). In United States, data from the National Health and Nutrition Examination Survey (NHANES) 2003-2012 revealed that 33% of the population above 20 years old had MetS (Aguilar, Bhuket, Torres, Liu, & Rj, 2015).

[0004] According to the National Cholesterol Education Program Adult Treatment Panel III (ATP III), MetS is defined as the presence at least three of the following five

25 kg/m², overweight from 25 to 30 kg/m², obese class I from 30 to 35 kg/m², obese class II from 30 to 35 kg/m² and obese class III over 40 kg/m². Obesity itself increases the likelihood to develop metabolic syndrome, hypertension, type 2 diabetes, non-alcoholic fatty liver disease, or obesity-related kidney disease (Grundy, 2015).

[0007] White adipose tissue (WAT) is the tissue where excess nutrients are stored in the form of lipids in unilocular adipocytes when overfed, so they may be released as fatty acids to be utilized as energy when food scarce (Bartelt & Heeren, 2014). Surplus fat is stored either by increasing the size of the adipocytes (hypertrophy) or number of adipocytes (hyperplasia) (Grundy, 2015). Fat may be stored in the different parts of the body, the lower body fat is stored subcutaneously in the legs and hips and the upper body fat may also be stored subcutaneously but additionally inside the abdominal cavity between the organs. Upper body fat is also referred as visceral fat and it is more related with MetS and hepatic steatosis compared with lower body fat.

[0008] The adipose tissue is now recognized as an endocrine tissue capable to secrete hormones or adipokines influencing systemic metabolism and appetite. Dysfunctional enlarged adipose tissue with hypertrophic adipocytes produces more pro-inflammatory factors and less anti-inflammatory factors. Obesity also impairs leptin secretion by the WAT (Pan, Guo, & Su, 2014). Leptin regulates energy metabolism by increasing energy expenditure and decreasing energy intake and it is considered a metabolic signal for energy sufficiency. Unfortunately, during obesity, leptin resistance is developed which may evolve to hyperleptinemia (Pan et al., 2014). Some phytochemicals, such as isoflavones, may be used to prevent or treat hyperleptinemia (WO2012/145281).

[0009] Diabetes is a metabolic disease characterized by hyperglycemia caused by defect on insulin secretion, insulin action or both (American Diabetes Association., 2014).

[0010] Insulin resistance precedes diabetes and it is a physiological condition when even though insulin can be normally secreted, the cell responds inefficiently to the normal insulin stimulation impairing glucose uptake and causing hyperglycemia. The pancreas reacts to this condition by secreting more insulin in order to prevent hyperglycemia. The high concentration of insulin is referred as hyperinsu-

1-67. (canceled)

68. An extract from plants of the Agavaceae family comprising steroidal saponins, wherein said extract has beneficial effects on the organism of mammals in relation to the prevention or treatment of metabolic disorder related pathologies in mammals, including humans and further beneficial effects on lipid metabolism, glucose metabolism, energy expenditure and gut microbiota health.

69. An extract as claimed in claim 68, wherein the concentration of steroidal saponins in the extract is of from 30 to 90% in weight.

70. An extract as claimed in claim 68, wherein the most abundant saponins present in the extract are kammogenin glycosides, comprising >30% of the total saponin and saponin concentration and the saponin concentration is at least 0.01%.

71. An extract as claimed in claim 68, further comprising at least one saponin from the group comprising: agamenside, agaveside, agavoside, magueyside, agavasaponin, cantalasaponin, sisalsaponin, gabrittonoside, dongnoside, amolonin.

72. An extract as claimed in claim 68, further comprising at least one aglycone from the group comprising: kammogenin, manogenin, gentrogenin, hecogenin, tigogenin, chlorogenin, sarsapogenin, gitogenin.

73. An extract as claimed in claim 68, further comprising phytochemicals such as alkaloids, polyphenols, flavonoids, phytosterols, triterpenes, policosanols.

74. A composition comprising the extract of claim 68, wherein said composition has beneficial effects on the organism of mammals in relation to the prevention or

76. A composition as claimed in claim 74, wherein the amount of saponins contained in the composition is preferably of from 0.001 to 70% in weight.

77. A method for the treatment or prevention of metabolic disorder including syndrome, diabetes and their related pathologies in mammals, including humans, said method comprising administering to the mammal in need of such treatment and/or prophylaxis, an effective and/or prophylactic amount of the extract of claim 68.

78. A method to benefit the lipid metabolism in mammals, including humans said method comprising administering to the mammal in need of such treatment and/or prophylaxis, an effective and/or prophylactic amount of the extract of claim 68.

79. A method to benefit the glucose metabolism in mammals, including humans, said method comprising administering to the mammal in need of such treatment and/or prophylaxis, an effective and/or prophylactic amount of the extract of claim 68.

80. A method to benefit energy expenditure in mammals, including humans, said method comprising administering to the mammal in need of such treatment and/or prophylaxis, an effective and/or prophylactic amount of the extract of claim 68.

81. A method to benefit gut microbiota health in mammals, including humans, said method comprising administering to the mammal in need of such treatment and/or prophylaxis, an effective and/or prophylactic amount of the extract of claim 68.

* * * * *

BÚSQUEDAS DE PATENTES

Búsquedas del estado de la técnica – ¿Qué soluciones existen para mi problema técnico?

Búsquedas de novedad/patentabilidad – ¿Puedo obtener una patente para mi invención?

Búsquedas de validez - ¿Es esta patente válida?; ¿Puede ser desafiada legalmente?

Búsquedas de nombre - ¿En qué invenciones está involucrada esta persona o compañía?

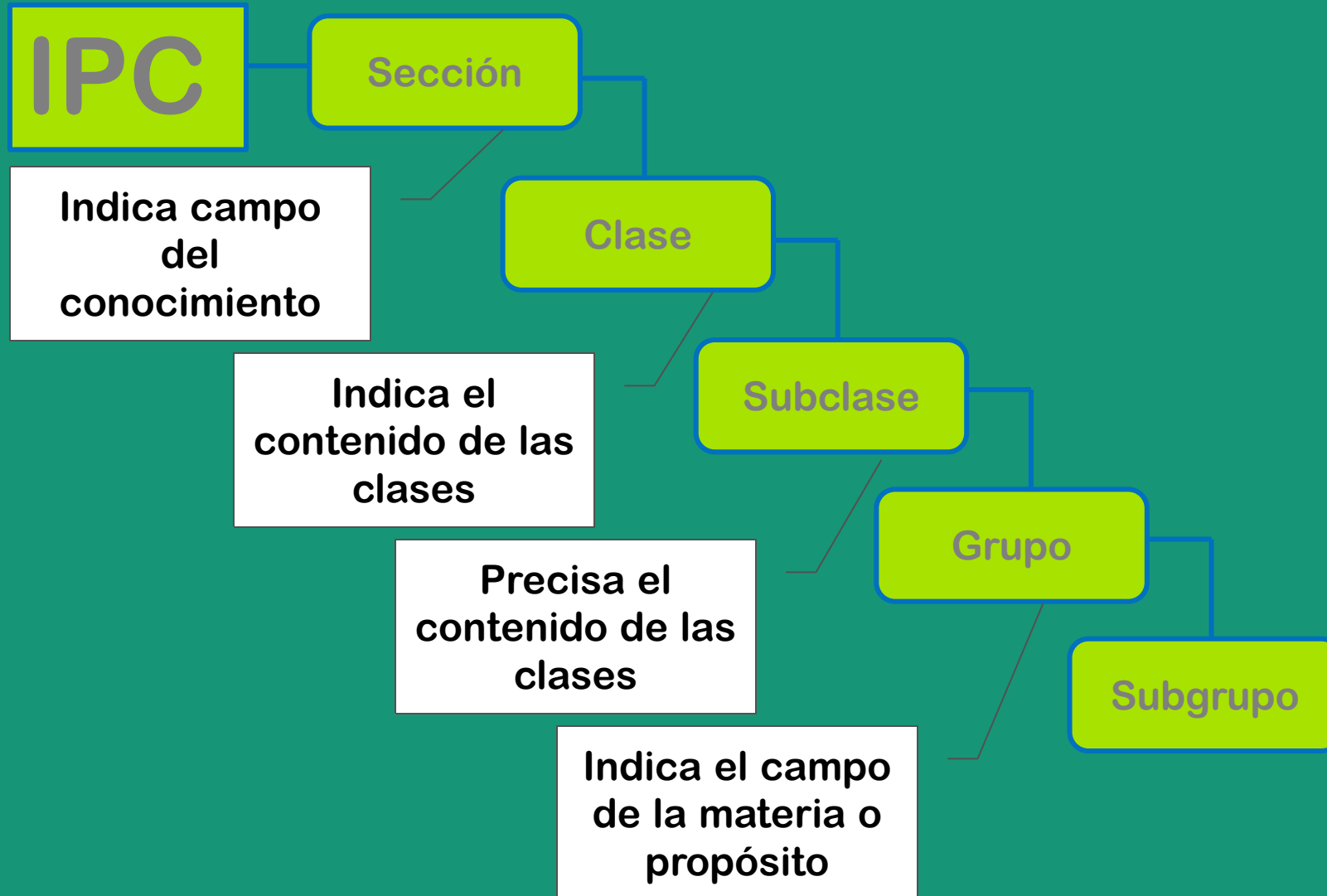
Búsquedas de actividades tecnológicas - ¿Cómo se ha desarrollado esta tecnología en el tiempo y quien ha estado involucrado en su desarrollo?

Búsquedas de estado legal – ¿Puedo producir y/o comercializar este producto en aquel país?; ¿Ha sido esta patente concedida? ¿Está vigente?

BÚSQUEDAS DE PATENTES

- PALABRAS CLAVE
- OPERADORES BOLEANOS (AND /OR/NOT)
- CLASIFICACIÓN INTERNACIONAL (IPC)

Clasificación internacional



FUENTE:

http://www.wipo.int/export/sites/www/classifications/ipc/en/guide/guide_ipc.pdf

CLASIFICACIÓN INTERNACIONAL DE PATENTES

	A	HUMAN NECESSITIES
	B	PERFORMING OPERATIONS; TRANSPORTING
	C	CHEMISTRY; METALLURGY
	D	TEXTILES; PAPER
	E	FIXED CONSTRUCTIONS
	F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
	G	PHYSICS
	H	ELECTRICITY

AGRICULTURE

+ A01 AGRICULTURE; FORESTRY; ANIMAL HUSBANDRY; HUNTING; TRAPPING; FISHING

FOODSTUFFS; TOBACCO

+ A21 BAKING; EQUIPMENT FOR MAKING OR PROCESSING DOUGHS; DOUGHS FOR BAKING [2006.01]

+ A22 BUTCHERING; MEAT TREATMENT; PROCESSING POULTRY OR FISH

+ A23 FOODS OR FOODSTUFFS; THEIR TREATMENT, NOT COVERED BY OTHER CLASSES

+ A24 TOBACCO; CIGARS; CIGARETTES; SIMULATED SMOKING DEVICES; SMOKERS' REQUISITES

PERSONAL OR DOMESTIC ARTICLES

+ A41 WEARING APPAREL

+ A42 HEADWEAR

+ A43 FOOTWEAR

+ A44 HABERDASHERY; JEWELLERY

+ A45 HAND OR TRAVELLING ARTICLES

+ A46 BRUSHWARE

+ A47 FURNITURE; DOMESTIC ARTICLES OR APPLIANCES; COFFEE MILLS; SPICE MILLS; SUCTION CLEANERS IN GENERAL

HEALTH; LIFE-SAVING; AMUSEMENT

+ A61 MEDICAL OR VETERINARY SCIENCE; HYGIENE

+	A01B	SOIL WORKING IN AGRICULTURE OR FORESTRY; PARTS, DETAILS, OR ACCESSORIES OF AGRICULTURAL MACHINES OR IMPLEMENTS, IN GENERAL (making or covering furrows or holes for sowing, planting or manuring A01C 5/00; machines for harvesting root crops A01D; mowers convertible to soil working apparatus or capable of soil working A01D 42/04; mowers combined with soil working implements A01D 43/12; soil working for engineering purposes E01, E02, E21)
+	A01C	PLANTING; SOWING; FERTILISING (combined with general working of soil A01B 49/04; parts, details or accessories of agricultural machines or implements, in general A01B 51/00-A01B 75/00)
+	A01D	HARVESTING; MOWING
+	A01F	THRESHING (combines A01D 41/00); BALING OF STRAW, HAY OR THE LIKE; STATIONARY APPARATUS OR HAND TOOLS FOR FORMING OR BINDING STRAW, HAY OR THE LIKE INTO BUNDLES; CUTTING OF STRAW, HAY OR THE LIKE; STORING AGRICULTURAL OR HORTICULTURAL PRODUCE (arrangements for making or setting stacks in connection with harvesting A01D 85/00)
+	A01G	HORTICULTURE; CULTIVATION OF VEGETABLES, FLOWERS, RICE, FRUIT, VINES, HOPS OR SEAWEED; FORESTRY; WATERING (picking of fruits, vegetables, hops or the like A01D 46/00; propagating unicellular algae C12N 1/12)
+	A01H	NEW PLANTS OR PROCESSES FOR OBTAINING THEM; PLANT REPRODUCTION BY TISSUE CULTURE TECHNIQUES [5]
+	A01J	MANUFACTURE OF DAIRY PRODUCTS (for chemical matters, see subclass A23C)
+	A01K	ANIMAL HUSBANDRY; AVICULTURE; APICULTURE; PISCICULTURE; FISHING; REARING OR BREEDING ANIMALS, NOT OTHERWISE PROVIDED FOR; NEW BREEDS OF ANIMALS
+	A01L	SHOEING OF ANIMALS
+	A01M	CATCHING, TRAPPING OR SCARING OF ANIMALS (appliances for catching swarms or drone-catching A01K 57/00; fishing A01K 69/00-A01K 97/00; biocides, pest repellants or attractants A01N); APPARATUS FOR THE DESTRUCTION OF NOXIOUS ANIMALS OR NOXIOUS PLANTS

BASES DE DATOS QUE UTILIZAMOS EN LA OFICINA DE TRANSFERENCIA DE TECNOLOGÍA

*PATSNAP (\$) (MUNDIAL)

WWW.PATSNAP.COM



*USPTO (LIBRE) (EUA)

[HTTPS://WWW.USPTO.GOV/PATENTS-APPLICATION-PROCESS/SEARCH-PATENT](https://www.uspto.gov/patents-application-process/search-patent)



*ESPACENET (LIBRE) (EUROPA) [HTTPS://WWW.EPO.ORG/SEARCHING-FOR-](https://www.epo.org/searching-for-patents/technical/espacenet.html#tab-1)

[PATENTS/TECHNICAL/ESPACENET.HTML#TAB-1](https://www.epo.org/searching-for-patents/technical/espacenet.html#tab-1)



*SIGA (Libre) (México)

<https://siga.impi.gob.mx>



*PATENTSCOPE (Libre)(OMPI)

patentscope.wipo.int



*GOOGLE PATENTS (Libre) (17 oficinas: USPTO, EPO, SIPO, JPO, KIPO, WIPO, CIPO, Russia, UK, Francia, España, Bélgica, Dinamarca, Finlandia, Luxemburgo, Holanda)

<https://patents.google.com>



Ejemplos prácticos de búsqueda:

*SIGA

*ESPACENET

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