

# What can be patented, how to proceed and what is absolutely crucial in the process ?

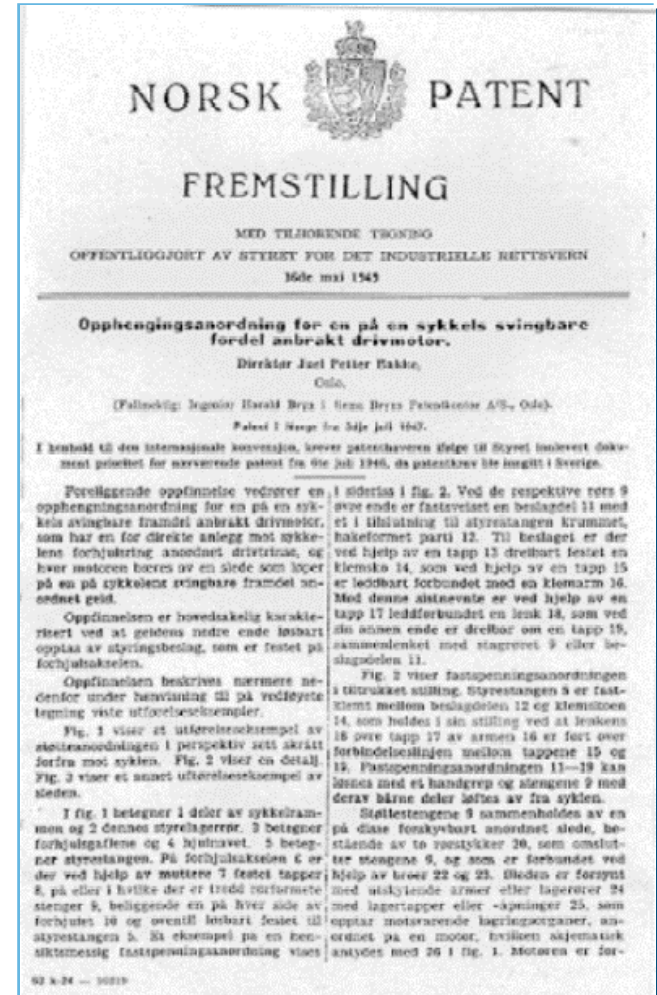
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# What is a patent ?

- A patent can only be granted for an invention
- A legal document which give you a time-limited, national exclusive right to exploit an invention commercially and prevent others from using your technology



# But....patents are not secret

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- The society:
  - Publication after 18 months
  - A description of the invention
  - Availability after 20 years
  - Technological development and innovation

*patent* originates from the [Latin](#) *patere*, which means "to lay open" (i.e., to make available for public inspection).

*Wikipedia*

# What can be patented? - Inventions

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Product



Process



Device



# Assessment of patentability - requirements



- **Novelty – “New / not identical”**

- **Keep the invention secret**

- If an idea is made public before the patent application is filed, it can no longer be considered new and is not patentable

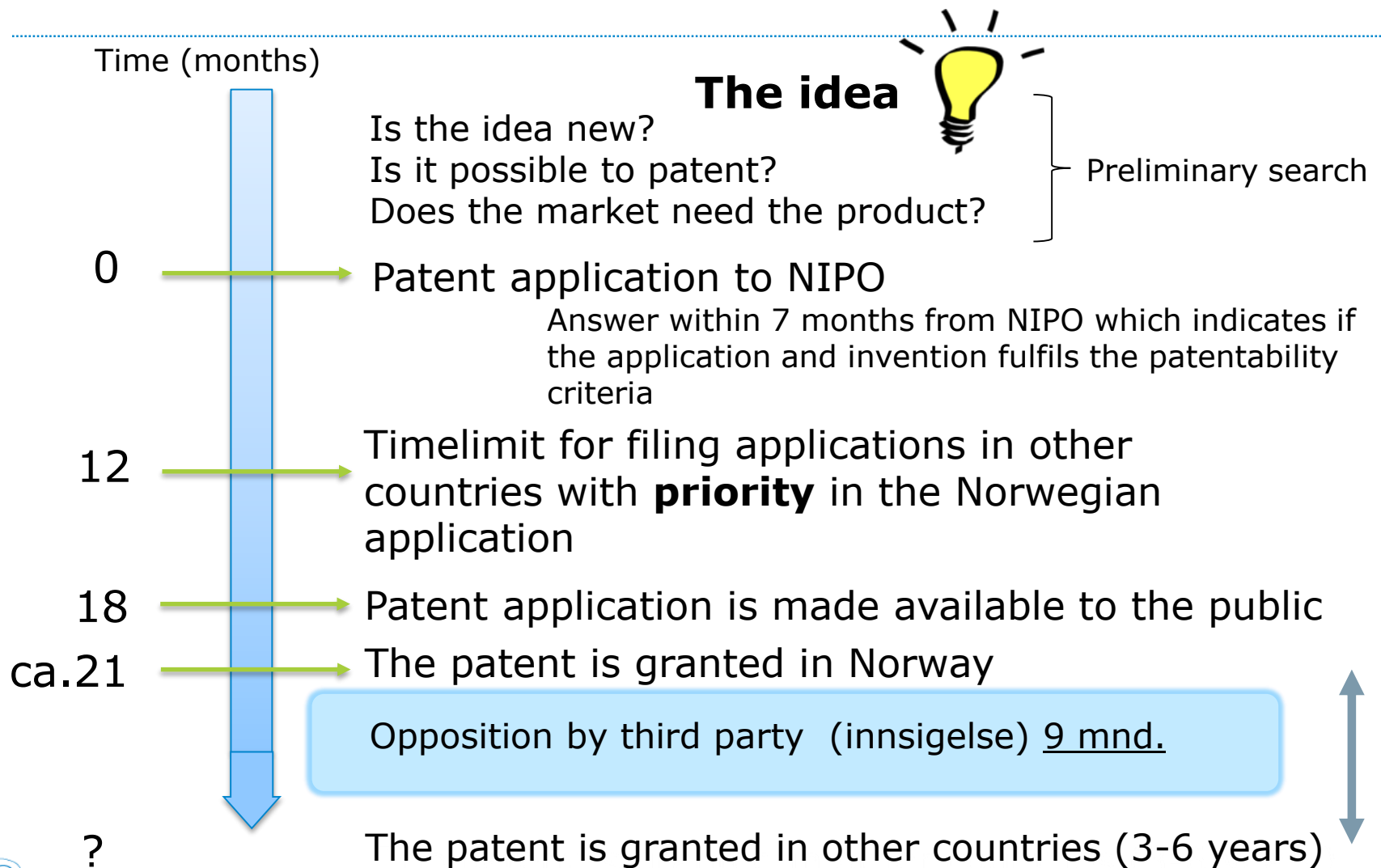
- **Inventive step - “Innovative / creativeness”**

- Inventive step means that the invention must differ significantly from previous technology in the area
  - It cannot be merely the next logical stage in a known technical process, obvious to someone with knowledge and experience in the subject *“technician / person skilled in the art”*

- **Capable of being manufactured**

- Technical character and possible for mass production – being reproducible
  - You cannot patent a business concept

# The road from idea to a patent



# Structure of a patent

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## 1<sup>st</sup> page with bibliographical data

- Publication number & application number
- Patent applicant, inventors
- Priority date, filing date, publication date
- Title and abstract

## Description

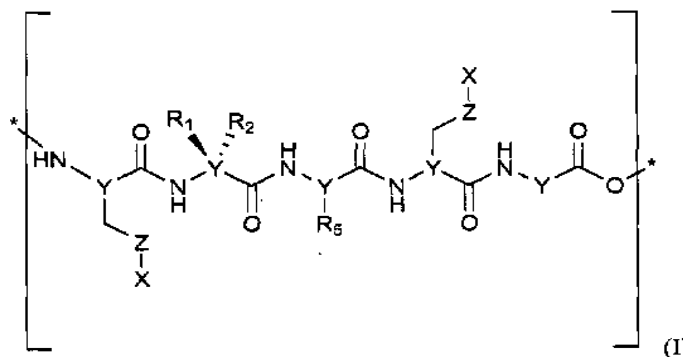
- General part
- Specific part including examples, drawings/figures

## Claims

Drafted in terms of the technical features of the invention

# WO 2010/073009 A2: Compounds, compositions and use

1. A peptide comprising a unit of formula (I)



and having a molecular weight of less than 2000

wherein each X is independently an organic group, e.g. a C<sub>1-6</sub> alkyl or C<sub>1-6</sub> alkenyl group, preferably -CH<sub>2</sub>-CH=CH<sub>2</sub>, or the two X groups taken together can form a covalent or non-covalent link between the two O groups, preferably a C<sub>1-10</sub> saturated or unsaturated carbon chain optionally interrupted by one or more heteroatoms selected from O, S, N, P, or Si, especially a C<sub>3-10</sub> carbon chain or one X represents an azido group and the other an C<sub>2-6</sub>-alkynyl group;

both Z's are the same and are O or S;

each Y is independently C, CH, CH<sub>2</sub>, N or NH;

R<sub>1</sub> is H or C<sub>1-6</sub> alkyl;

R<sub>2</sub> is H or C<sub>1-6</sub> alkyl;

R<sub>3</sub> is a C<sub>1-6</sub> alkyl group, preferably isopropyl;

or a salt, ester or prodrug thereof.



# WO 2010/073009 A2 cont.


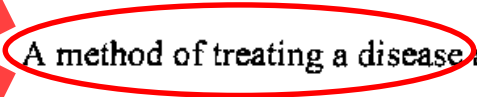
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19. A pharmaceutical composition comprising a peptide as claimed in any preceding claim along with at least one pharmaceutically acceptable excipient.

20. A peptide as claimed in any one of claims 1 to 18 for use in the treatment of disease, e.g. a disease associated with AQP.

21. A peptide as claimed in claim 20 where said disease is brain edema.

22. Use of a peptide as claimed in any one of claims 1 to 18 for the manufacture of a medicament for use in the treatment of disease, e.g. a disease associated with AQP, in particular brain edema.

 23.  A method of treating a disease associated with AQP comprising administering to a patient in need thereof an effective amount of a peptide as claimed in any one of claims 1 to 18.

# EP 0728198 B1: Isolation of nucleic acid

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## Claims

1. A method for isolating nucleic acid from a fixed or aged sample, said method comprising boiling said sample or heating said sample to a high temperature so as to release nucleic acid, and allowing it to cool, and binding the nucleic acid onto a high-surface area solid support.
2. A method for isolating nucleic acid from a sample, said method comprising boiling said sample or heating said sample to a high temperature so as to release nucleic acid and allowing it to cool, and binding the nucleic acid onto a high-surface area solid support comprising magnetic particles.
3. A method as claimed in claim 1 or 2 wherein the sample is boiled.
4. A method as claimed in any one of claims 1 to 3 wherein the nucleic acid is DNA.

# WO 98/48809 A1: Use of immunomodulating agents

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## CLAIMS

1. Use of inhibitors abolishing, the function of cAMP dependent protein kinase A Type I to produce a pharmaceutical preparation to treat immunosuppressive diseases.
2. Use according to claim 1, wherein the inhibitors are selected from the group consisting of cAMP antagonists, hammerhead ribozymes, sequence specific antisense nucleotides and anchoring disruption peptides.
3. Use according to claim 1-2, wherein the cAMP antagonist is selected from the group consisting, of Rp-8-Br-cAMPS, Rp-8-Br-mono-butyryl-cAMPS, Rp-mono-butyryl-cAMPS, Rp-8-Cl-cAMPS, Rp-8-(4-chlorophenylthiol)-cAMPS and Rp-8-piperidino-cAMPS.
4. Use according to claims 1-3, wherein the cAMP antagonist is Rp-8-Br-cAMPS.
5. Use according to claim 1-2, wherein the hammerhead ribozyme has the following base sequence;  
GUACUGCCACUGAUGAGUCCGUGAGGACGAAACUCCAUG (SEQ.ID. NO 5).
6. Use according, to claims 1-2, wherein the hammerhead ribozyme has the base sequence:  
GGCGGUACUGCCACUGAUGAGUCCGUGAGGACG,A-  
AACUCCAUGGA (SEQ.ID. NO 6).
7. Use according to claim 6, wherein the hammerhead ribozyme is stabilized by incorporation of 2-deoxy-cytosine and 2-deoxy-uracil analogs.
8. Use according to claims 1-2, wherein the sequence specific antisense nucleotide has the base sequence; GTACTGCCAGACTCCATG (SEQ ID. NO 7).
9. Use according to claim 1-2, wherein the sequence specific antisense nucleotide has the base sequence; GGCGGTACTGCCAGACTCCATGGT (SEQ.ID- NO 8).

# How to apply for a patent in Norway

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- National route
  - Norwegian Industrial Property Office (NIPO)
- Regional route
  - European Patent Office (EPO)

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## Unitary patent: Protecting inventions in 25 countries



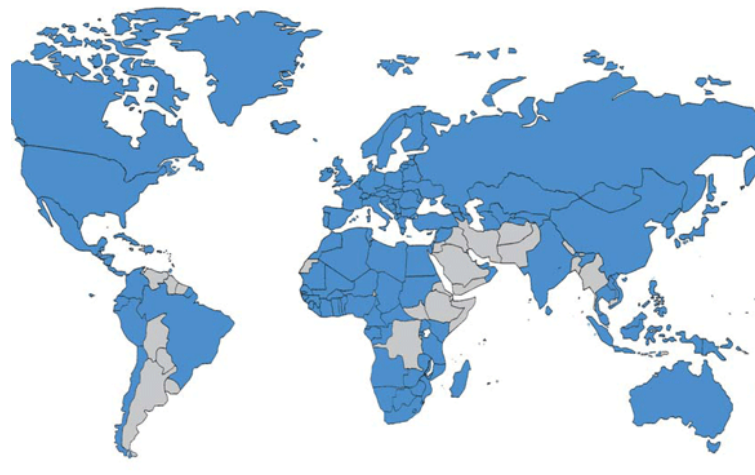
### Unitary patent and unified patent court

In 2012, representatives of the EU member states achieved a breakthrough agreement: The European unitary patent will soon guarantee supranational protection for inventions in 25 countries across Europe. Meanwhile, the agreement to install a European patent court is currently being ratified by EU member states.

# PCT (Patent Cooperation Treaty)

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- International application procedure – **NOT** an international or world patent
- International search and examination
- One set of formalities / easier to send in applications to selected countries



148 countries

## NPI – PCT authority

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- Established January 1, 2008
- Strong desire amongst domestic users to maintain national patent offices as local IPR competence centres
- Establishment of NPI - an initiative to consolidate patent competence in the participating countries – Denmark, Iceland, Norway
- PCT authority – for Norway, Denmark, Iceland, Sweden?
- Commercial services to customers outside Denmark, Norway and Iceland

[www.npi.int](http://www.npi.int)

# What is important to remember before filing a patent?

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- Keep the invention secret
  - If an idea is made public before the patent application is filed, it can no longer be considered new, and is therefore not patentable
- A patent application can not be changed after filing
- Search the patent literature
  - The fact that an invention is not commercially available does not always mean that it is new
- Study the market
  - Is there a market for the invention? In which countries is it important to get patent protection
- Seek expert help
  - Patent law is complex, and handling patent applications is a task for experts





# How is patent information available?

## Patent databases

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- The National Patent Offices have patent archives
  - Norwegian Industrial Property Office give free access to bibliographical data and status data of Norwegian public available patent applications and granted patents back to 1976  
<https://dbsearch2.patentstyret.no>
- European Patent Office (EPO) [www.epo.org](http://www.epo.org)
  - give free access to > 50 million patent documents on the Internet from > 80 countries
  - [http://worldwide.espacenet.com/numberSearch?locale=en\\_EP](http://worldwide.espacenet.com/numberSearch?locale=en_EP)
- US Patent and Trademark Office (USPTO)
  - give free access to a searchable database containing 9.1 million US patent documents
  - <http://portal.uspto.gov>
- World Intellectual Property Organization (WIPO)
  - <http://wipo.int/portal/index.html.en>
  - Patentscope 10,637,363 patent documents
  - <http://www.wipo.int/patentscope/search/en/search.jsf>

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# Questions?

# Fees for a Norwegian patent (1. April 2014)

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- Application fee
  - Search fee (small companies) 850 NOK
  - Search fee 4650 NOK
  - Each claim above 10 250 NOK
  
- Annual fees
  - 1-3 years 700 NOK/year
  - Gradually increase
  - 20 years 6500 NOK
  
- Fee for granting a patent
  - Basic fee 1200 NOK
  - Each page over 14 250 NOK / page
  - (Each new claim not paid for earlier 250 NOK)
  
- Fees for patent attorney