A Comparative Study of Patentable Subject Matter of Biotechnological Inventions in the European Patent Organization, the United States and China

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Overview

What
- Patent and biotechnology
- Patentable subject matter
- Research questions

Why
- Motivation
- Oncomouse case
- China faces the challenges

How
- Research Outline
- Method and research materials
What is Patent?

Patents may be granted for inventions and give the owner the right to prevent others from using the invention.

Patentable subject matter: the gate keeper of patenting

Three basic patentability requirements: Novelty, Inventive step (Non-abviousness), Industrial applications (utility)
What are Biotechnological inventions?

Biotechnological inventions in patent law include:

- Genes or DNA
- Polypeptides, proteins (enzymes, biocatalysts, antibodies, vaccines)
- Cells (human embryonic stem cells)
- Plants and animals
- Microorganisms
- ...
## Oncomouse case (Harvard mouse)

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<th>Jurisdictions</th>
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<td>The U.S.</td>
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<td>Canada</td>
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<td>Europe (Through EPO)</td>
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The oncomouse carries an activated oncogene, which significantly increases the mouse’s susceptibility to cancer, and thus makes the mouse suitable for cancer research.

Different jurisdictions, different considerations, different results!
Research questions

• 1. What can be patented? Whether genes, animals and microorganisms, human embryonic stem cells can be patented in these jurisdictions? Why?

• 2. What are the similarities and differences regarding patentable subject matter of biotechnological inventions in these three jurisdictions? Why?

• 3. To what extent policy instruments and public debates influence the determination of patentable subject matter in patent office and judicial activism and vise versa?

• 4. Whether can China draw some experience from the US and the EPO? How can China face the challenges?

The research questions will be modified and more specific questions will be set up later according to the above main questions.
Research outline

I. Introduction

II. Biotechnology and patent

III. Genes

IV. Animals and microorganisms

V. hESCs

VI. How can China face the challenges

1. Policy in USPTO, EPO, SIPO and laws
2. Judicial Activism
3. Policy instruments and public debates

1. Policy in Patent Office

2. Judicial Activism

3. Policy instruments and public debates

Influence each other

a. Legal system
b. Cultures and customs
c. Development of industry

Faculteit der Rechtsgeleerdheid / Faculty of Law
Research method & materials

- Comparative law
- Subjective and teleological interpretation method
- Historical analysis
- Case study

Materials: court decisions, statutes, regulations, municipal ordinances, court rules, preparation acts, red documents (China)…
Thank you!