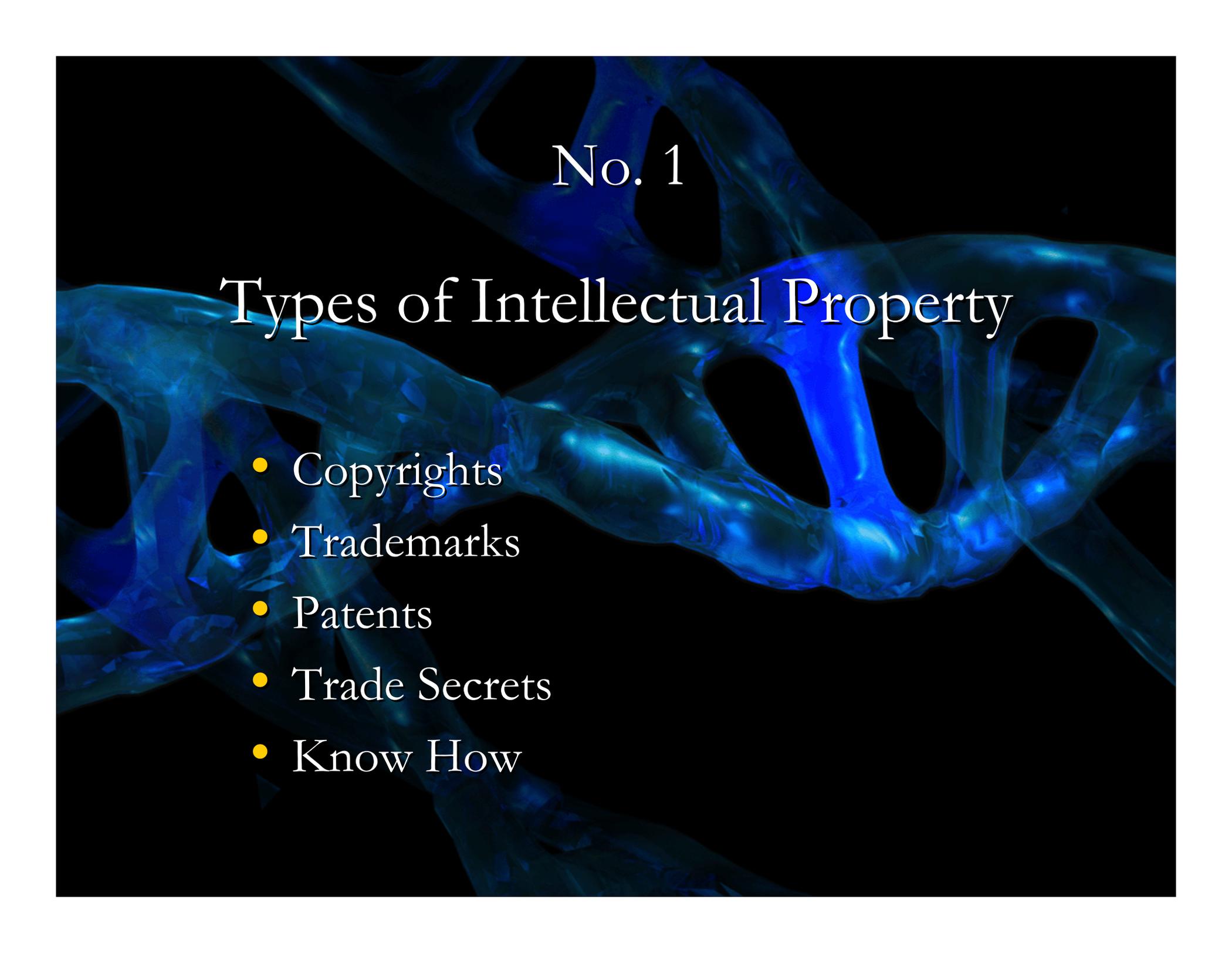


Ten Things Every  
Researcher Should Know  
About Intellectual Property

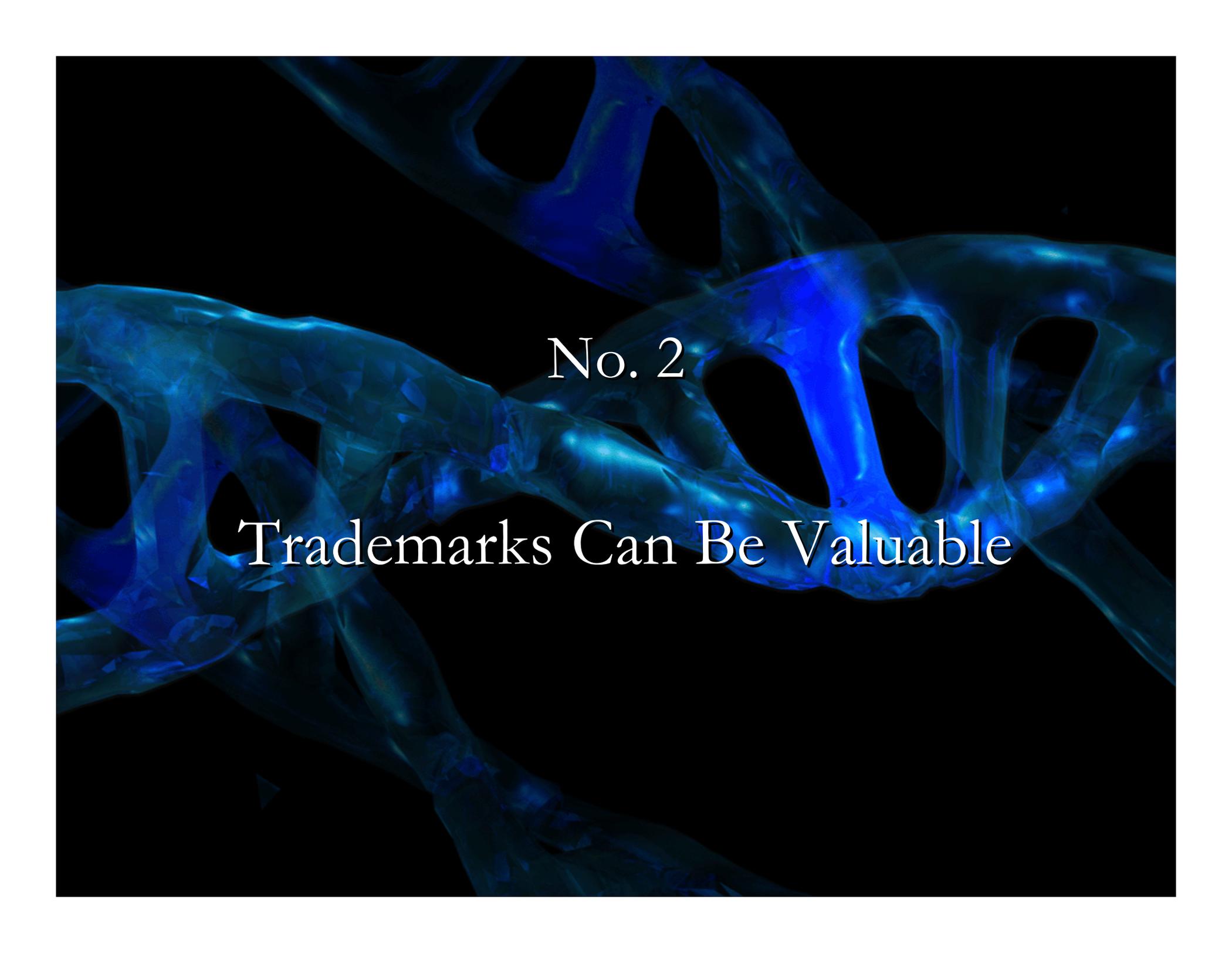
Christopher Eisenschenk, Ph.D., J.D.  
Saliwanchik, Lloyd & Saliwanchik, P.A.



No. 1

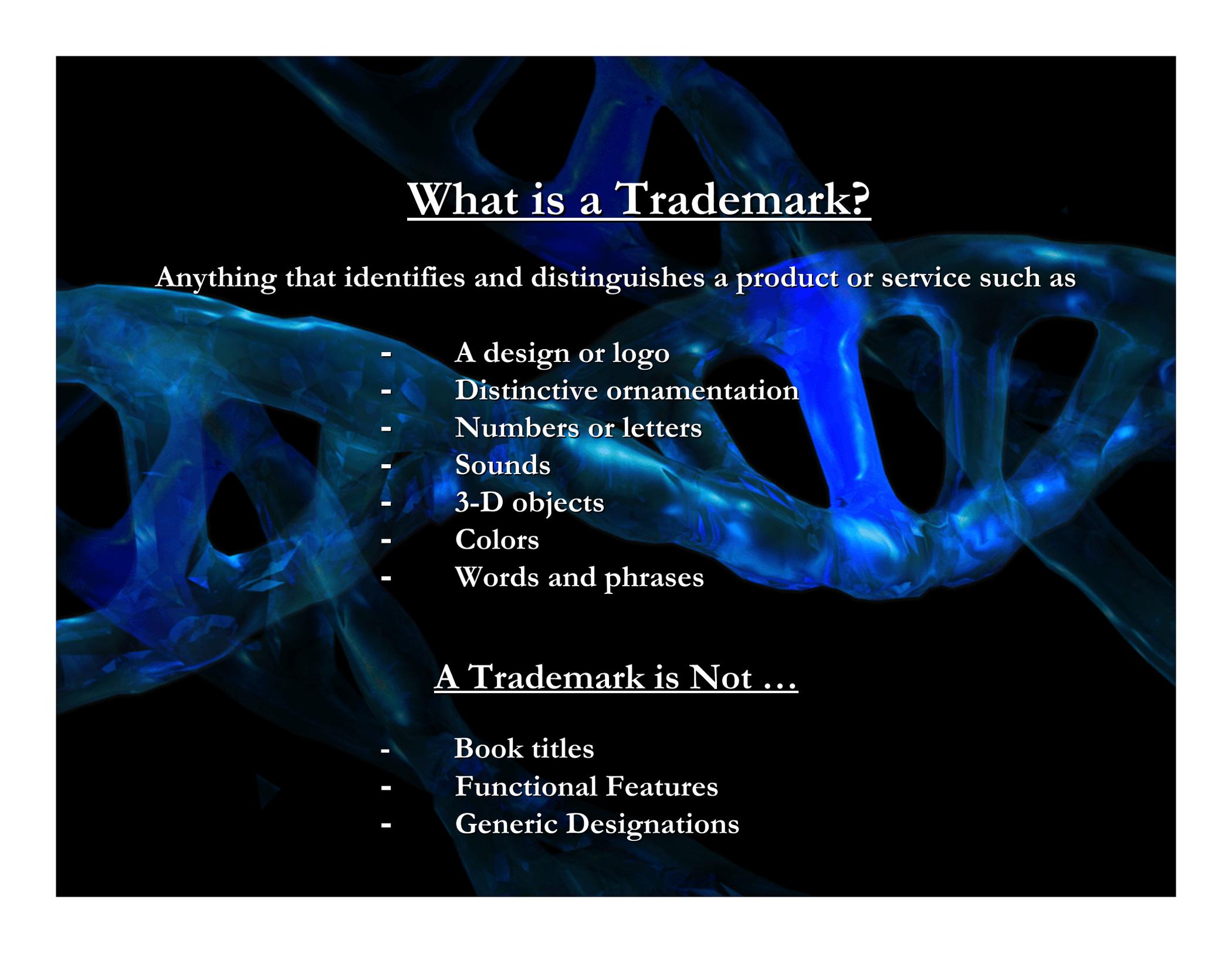
# Types of Intellectual Property

- Copyrights
- Trademarks
- Patents
- Trade Secrets
- Know How

A glowing blue DNA double helix structure is shown against a black background. The structure is composed of two intertwined strands connected by rungs, all emitting a bright blue light. The text "No. 2" is centered over the middle of the structure.

No. 2

Trademarks Can Be Valuable



# What is a Trademark?

Anything that identifies and distinguishes a product or service such as

- A design or logo
- Distinctive ornamentation
- Numbers or letters
- Sounds
- 3-D objects
- Colors
- Words and phrases

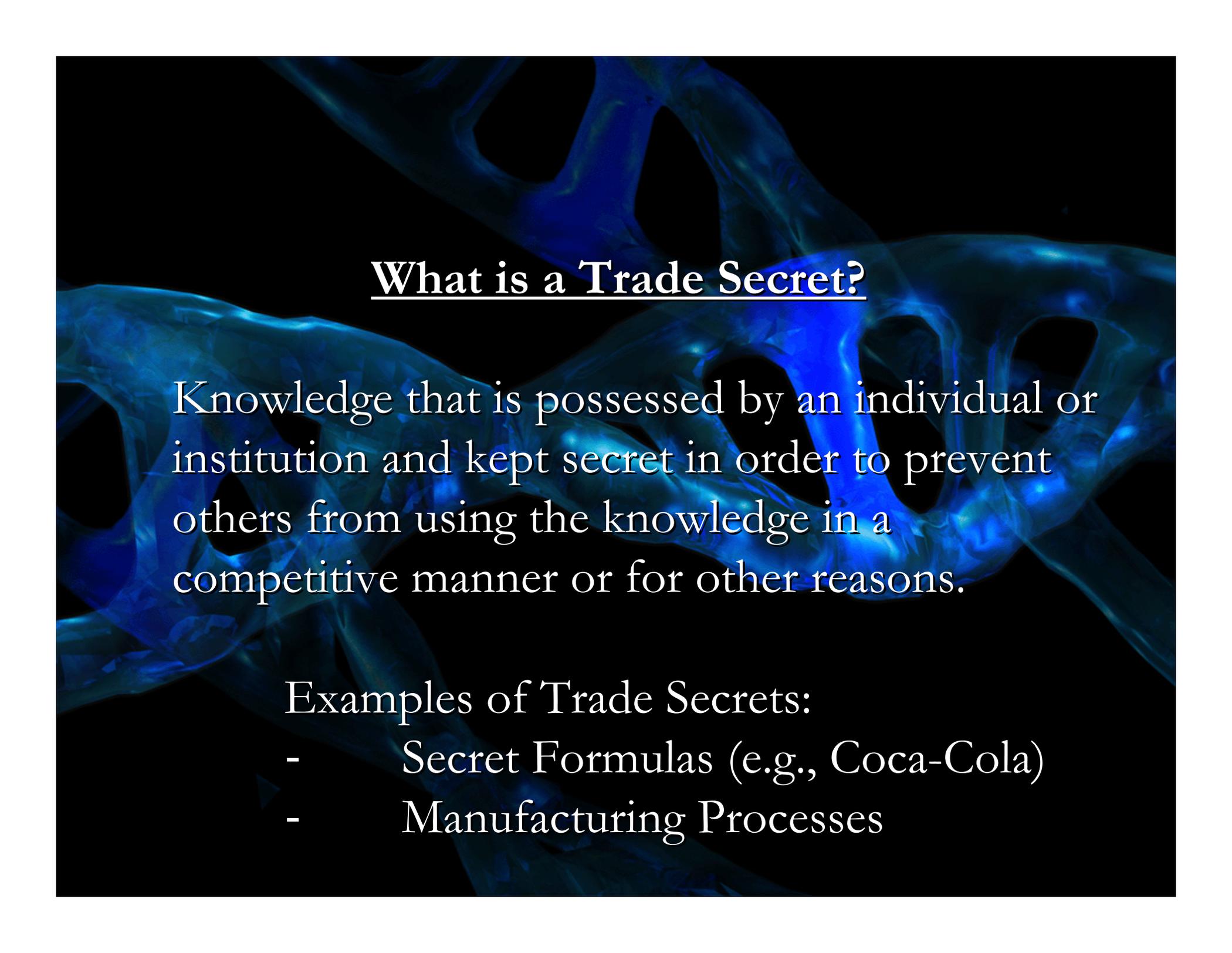
## A Trademark is Not ...

- Book titles
- Functional Features
- Generic Designations

A glowing blue DNA double helix structure is shown against a black background. The structure is composed of two intertwined strands connected by rungs, all emitting a bright blue light. The text "No. 3" is centered over the middle of the structure.

No. 3

Protect Your Trade Secrets



## What is a Trade Secret?

Knowledge that is possessed by an individual or institution and kept secret in order to prevent others from using the knowledge in a competitive manner or for other reasons.

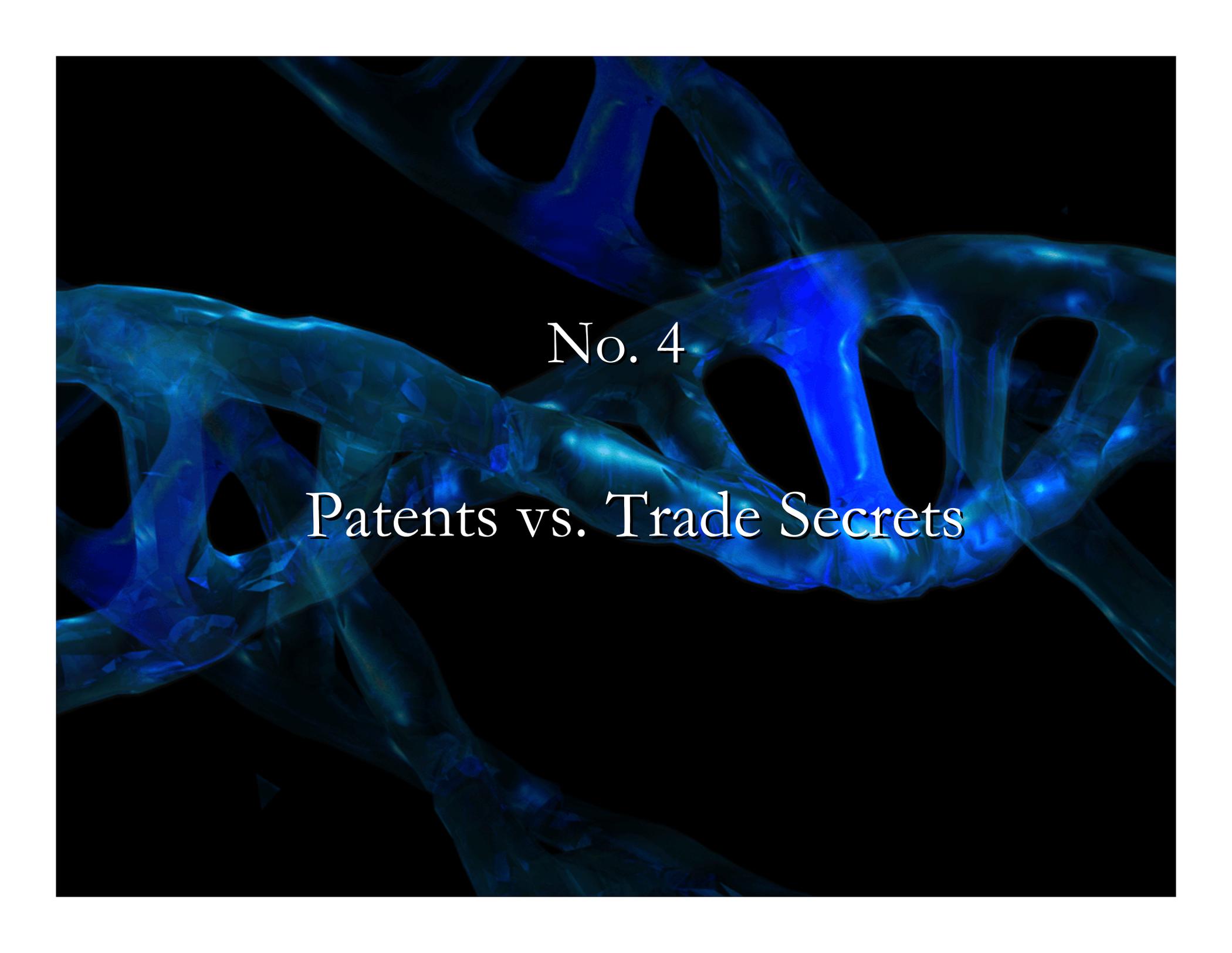
Examples of Trade Secrets:

- Secret Formulas (e.g., Coca-Cola)
- Manufacturing Processes



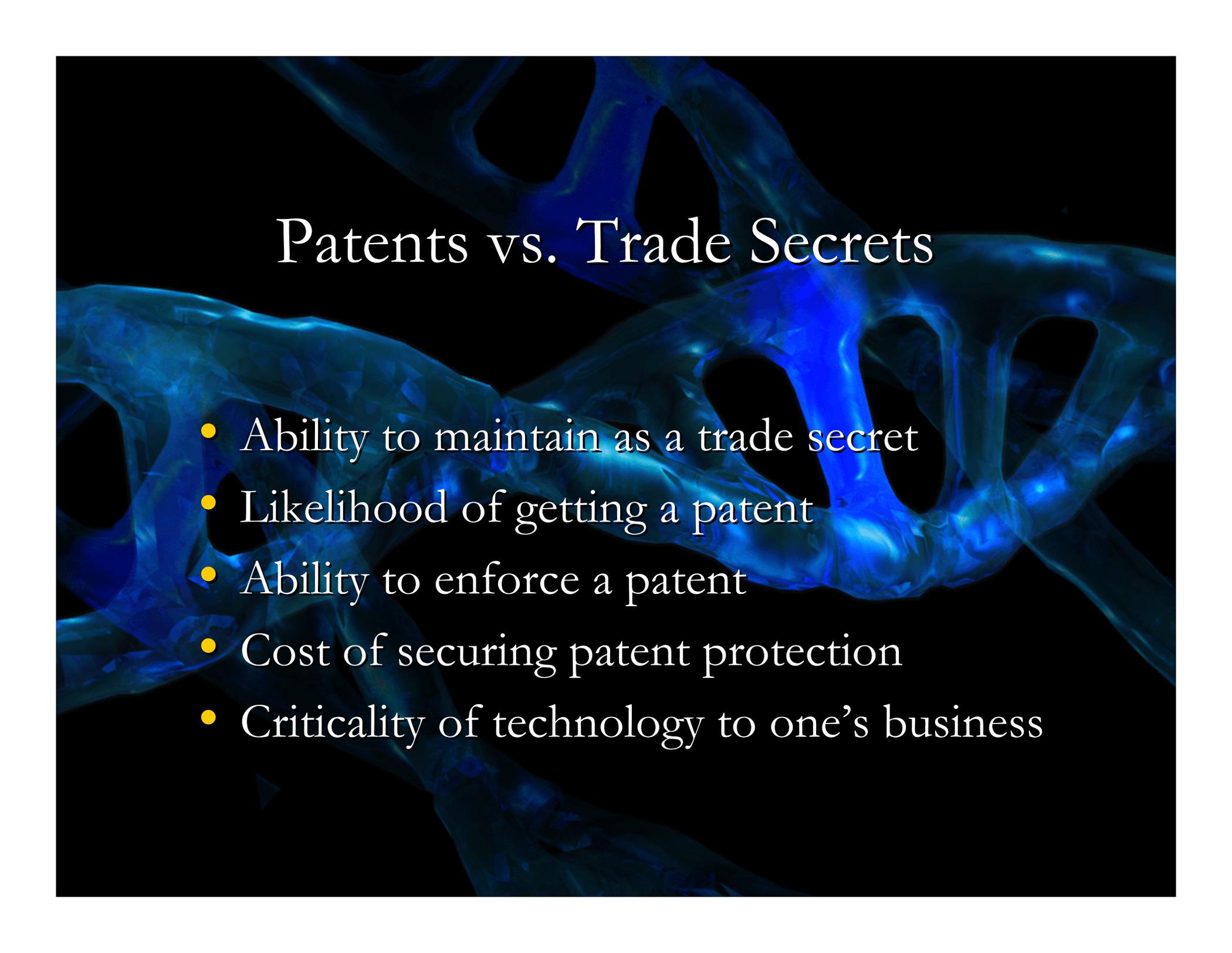
# Maintaining a Trade Secret

- Must be a secret
- Must take reasonable steps to maintain secrecy
- Limit access
- Confidential Disclosure Agreements

A glowing blue DNA double helix structure is shown against a black background. The structure is composed of two intertwined strands connected by horizontal rungs, all emitting a bright blue light. The text "No. 4" is centered over the middle of the structure.

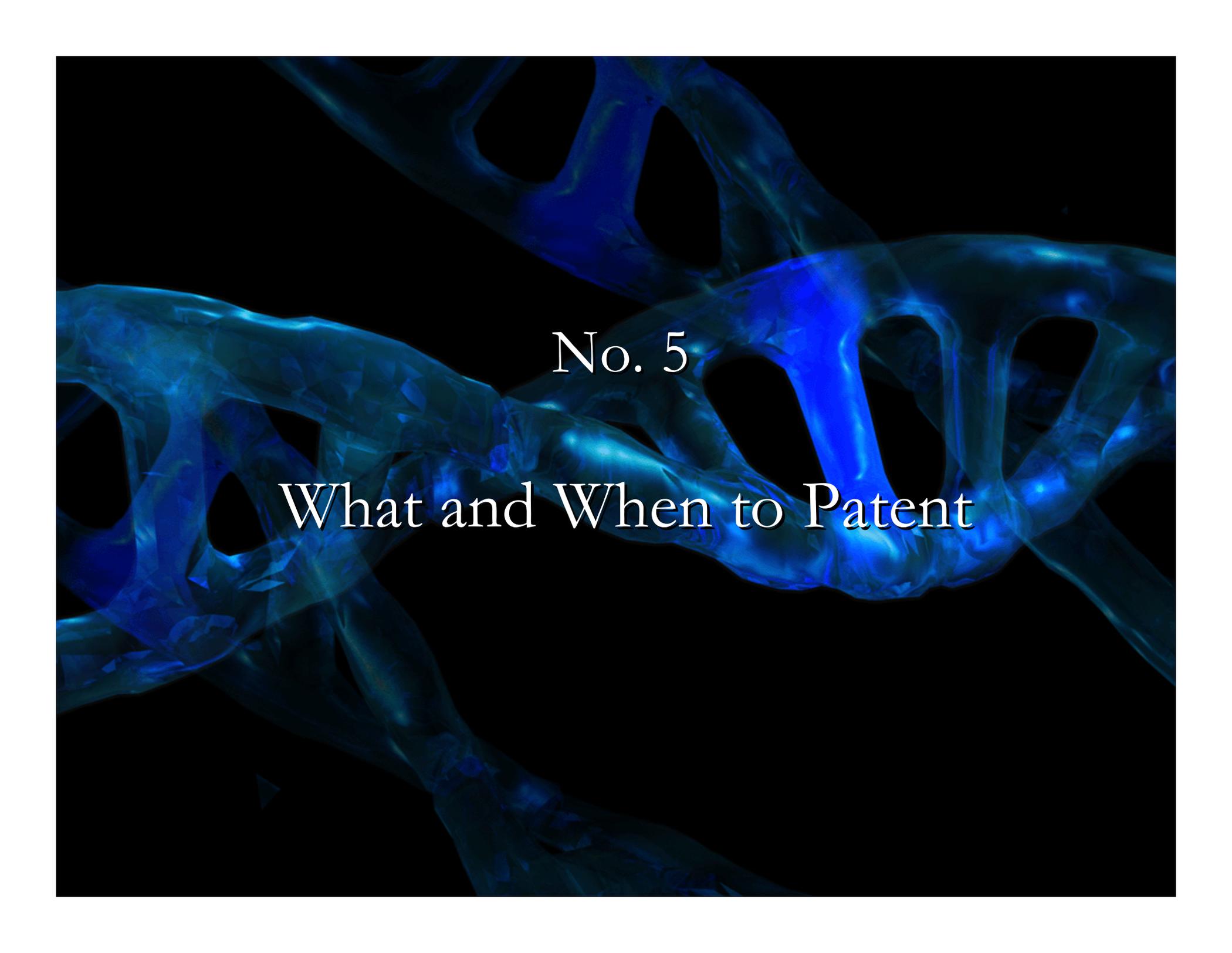
No. 4

Patents vs. Trade Secrets



# Patents vs. Trade Secrets

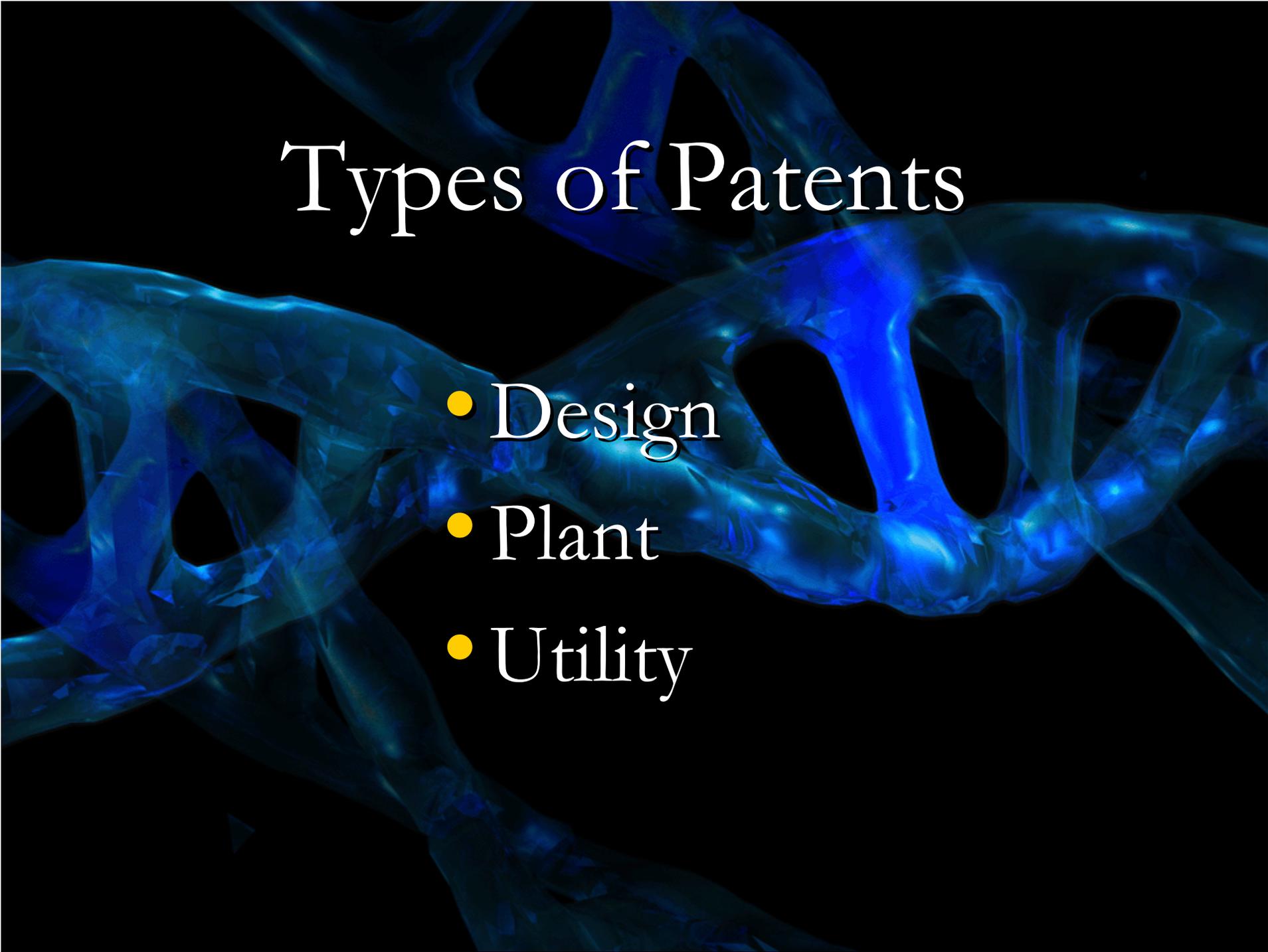
- Ability to maintain as a trade secret
- Likelihood of getting a patent
- Ability to enforce a patent
- Cost of securing patent protection
- Criticality of technology to one's business

A glowing blue DNA double helix structure is shown against a black background. The helix is rendered with a semi-transparent, crystalline texture, giving it a futuristic and scientific appearance. The light blue color of the helix contrasts sharply with the dark background, making it the central focus of the image.

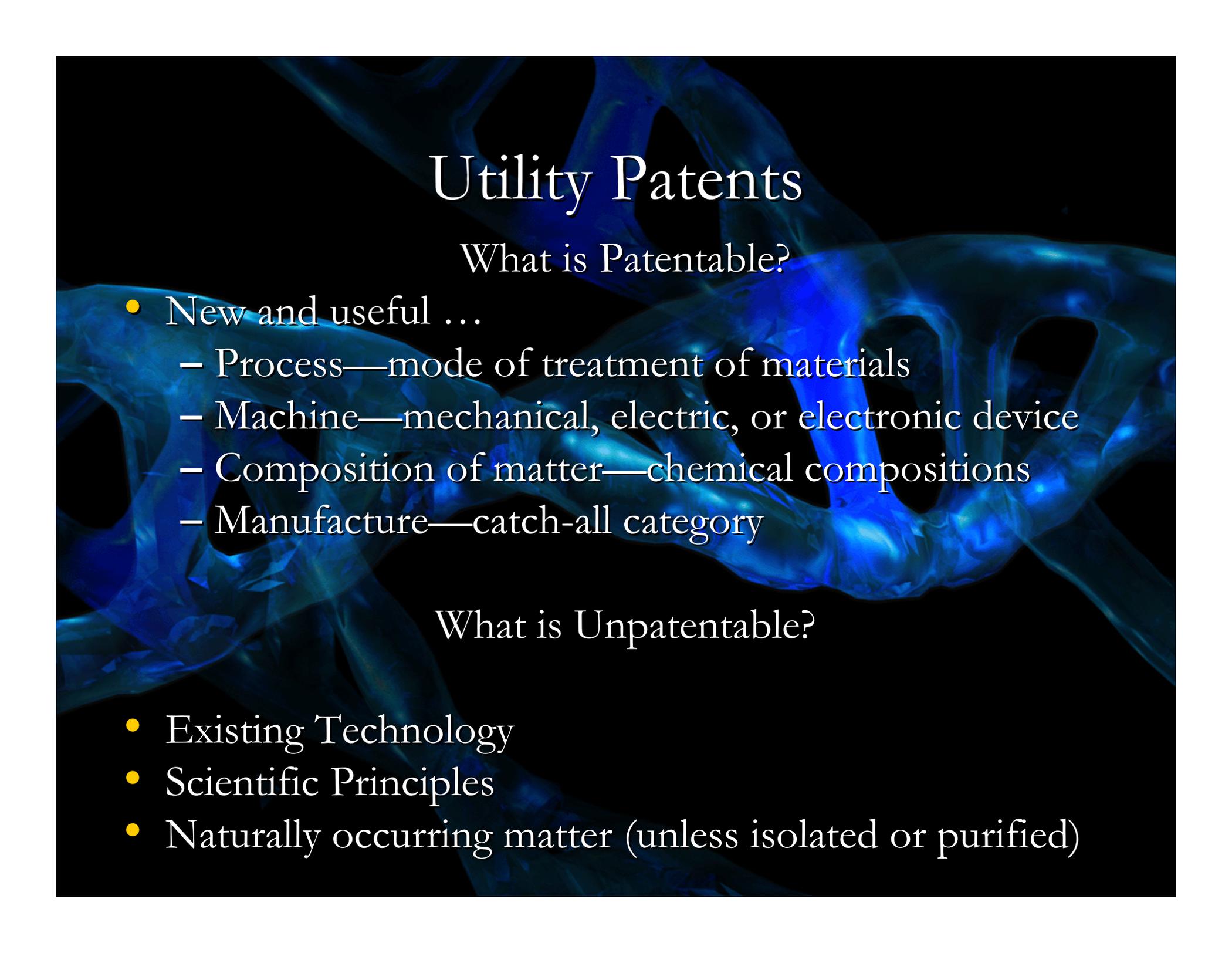
No. 5

# What and When to Patent

# Types of Patents



- Design
- Plant
- Utility



# Utility Patents

## What is Patentable?

- New and useful ...
  - Process—mode of treatment of materials
  - Machine—mechanical, electric, or electronic device
  - Composition of matter—chemical compositions
  - Manufacture—catch-all category

## What is Unpatentable?

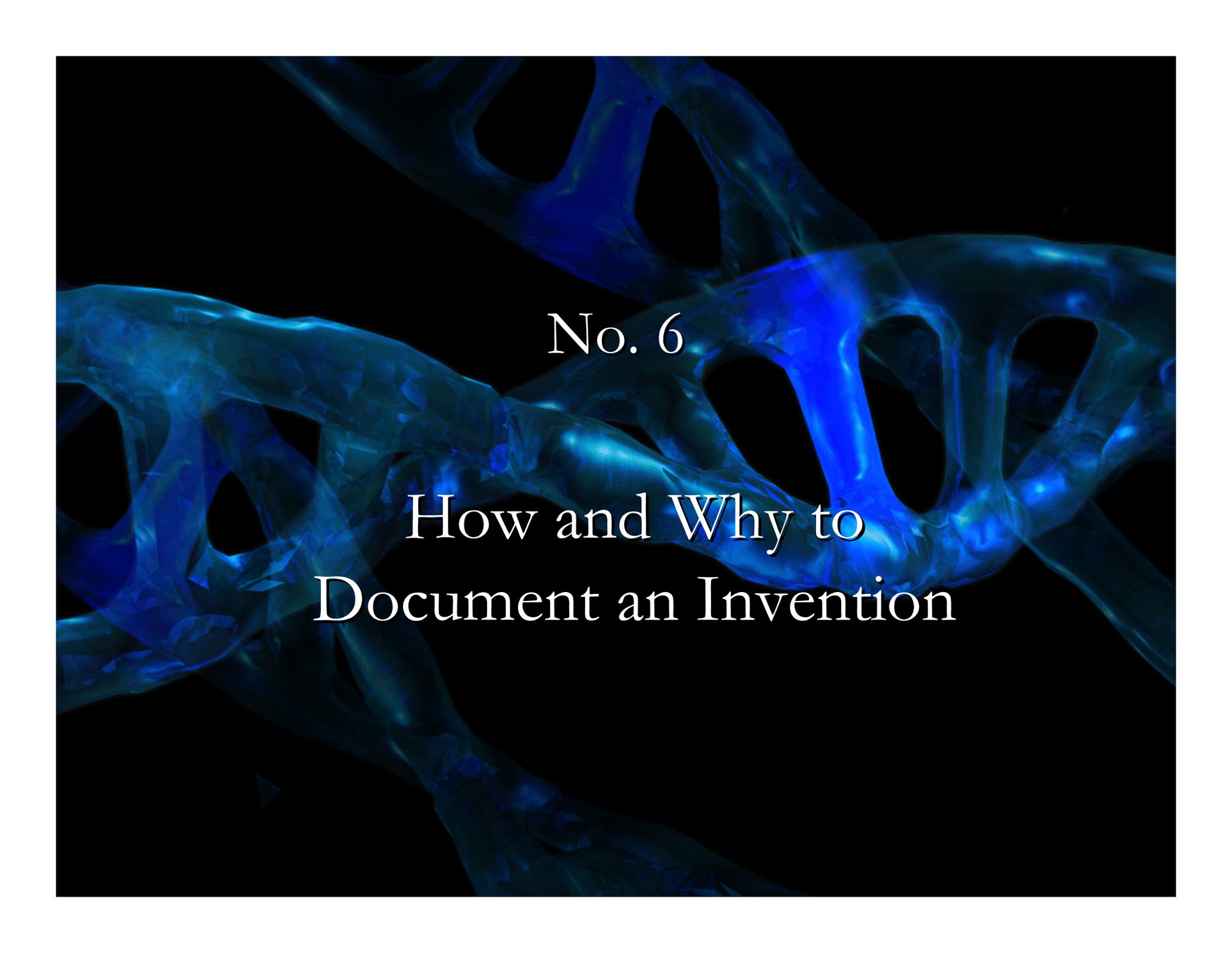
- Existing Technology
- Scientific Principles
- Naturally occurring matter (unless isolated or purified)

# Plant Patents

- Asexually reproduced, distinct and new varieties of plants, including cultivated spores, mutants, hybrids, and newly found seedlings, other than tuber propagated plant or plants found in an uncultivated state.
  - asexual reproduction: propagation of a plant by means other than seed, *i.e.*, culture propagation, grafting, budding, cuttings, *etc.*

# Design Patents

- What is Patentable?
  - New, original, nonobvious ornamental designs for articles of manufacture
- What is Unpatentable?
  - Unornamented functional features

A glowing blue DNA double helix structure is shown against a black background. The structure is composed of two intertwined strands connected by rungs, all of which are illuminated with a bright blue light, giving it a translucent, crystalline appearance. The lighting creates highlights and shadows, emphasizing the three-dimensional structure of the molecule.

No. 6

How and Why to  
Document an Invention

# Why to Document Invention

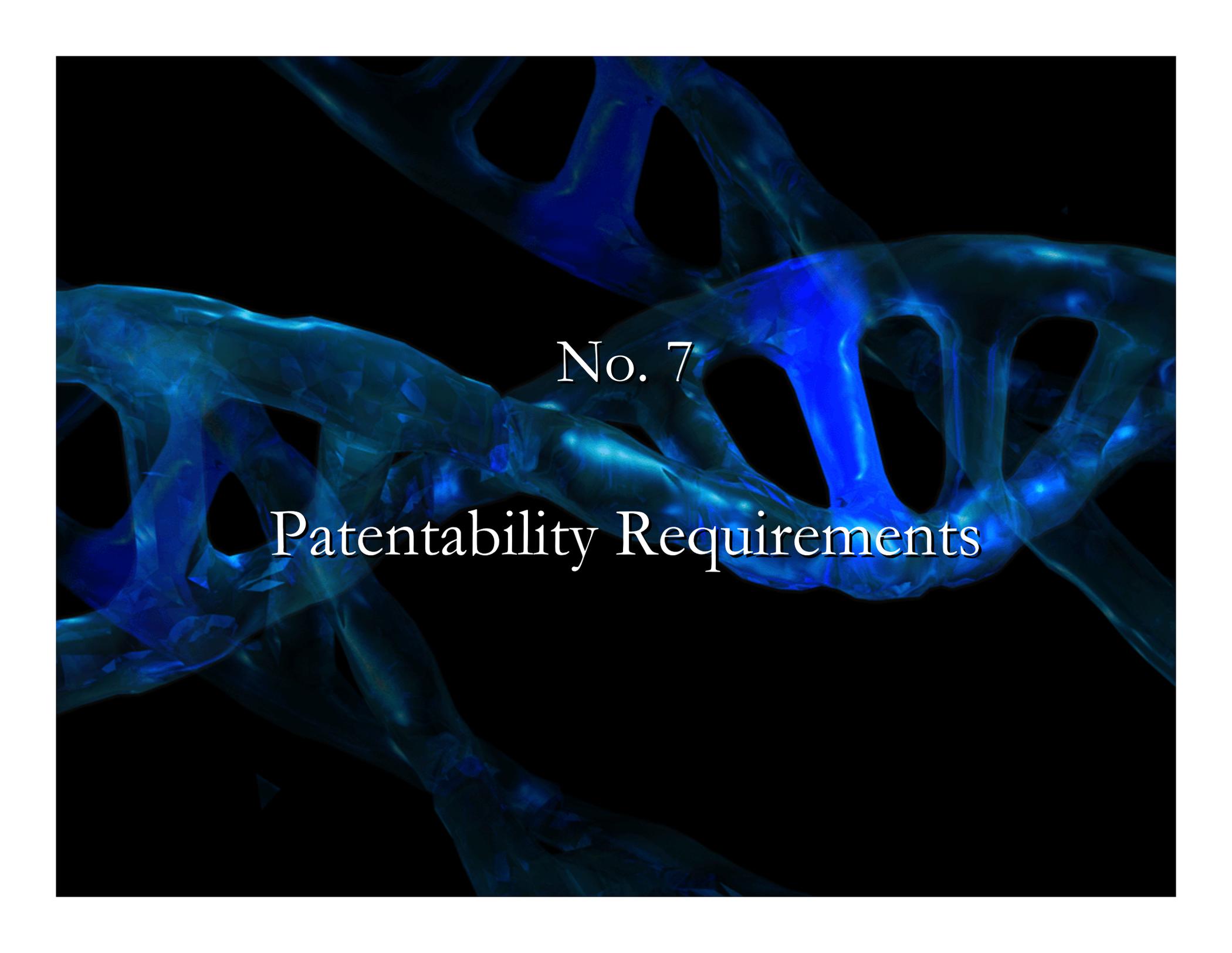
- Proof of invention
- Proof of invention occurred (e.g., prove you invented first if two or more parties independently conceived of the invention)
- Prevent others from misappropriating your invention (e.g., prove you had it before they learned of it from you)
- Correct determination of inventorship
- Antedate references (swear behind a reference)
- Avoid ownership disputes (relative contribution of two groups)
- Provide evidence of obstacles overcome

# How to Document Invention

- Write a description, including drawings if necessary, of the invention such that a person of ordinary skill in the art can understand the invention.
- Sign and date the description, and have at least one witness (two preferred) who has read and understood the description sign and date
- Chose impartial competent witnesses (e.g., not relatives or co-inventors)
- Keep signed description in safe place, even after patent issues.

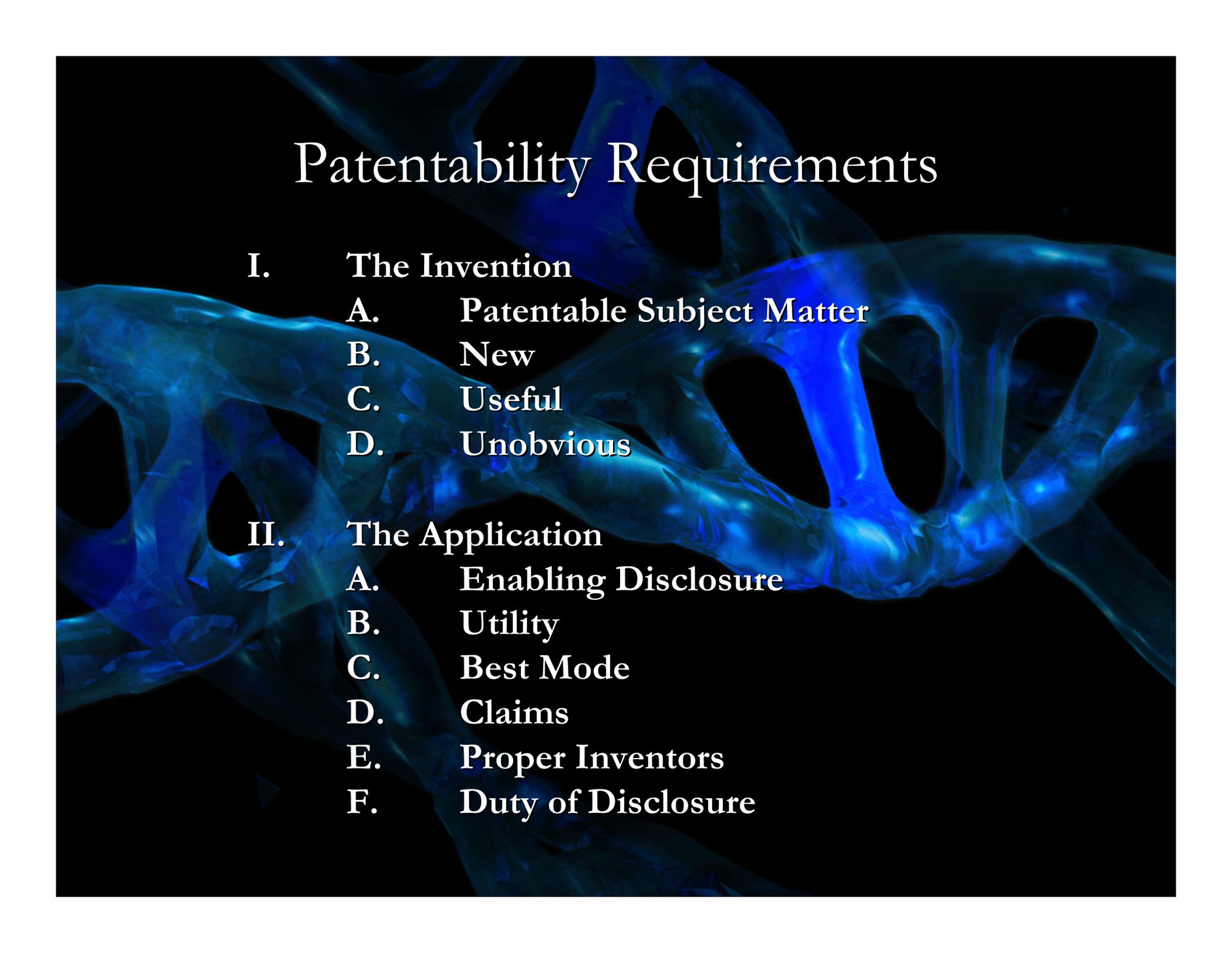
# Keep a Laboratory Notebook

- Bound pages
- Pre-numbered pages
- Do not rip pages out
- Do not erase
- Do not skip blocks of pages
- Do not skip pages
- A place for signatures of your witness(es) at the bottom of pages
- Date each entry
- Enter progress of research and results
- Periodic (ritual) witnessing
- Keep notebook in a safe place
- Use a pen

A glowing blue DNA double helix structure is shown against a black background. The DNA strands are rendered with a semi-transparent, faceted appearance, giving it a crystalline or digital look. The helix is oriented diagonally across the frame.

No. 7

# Patentability Requirements



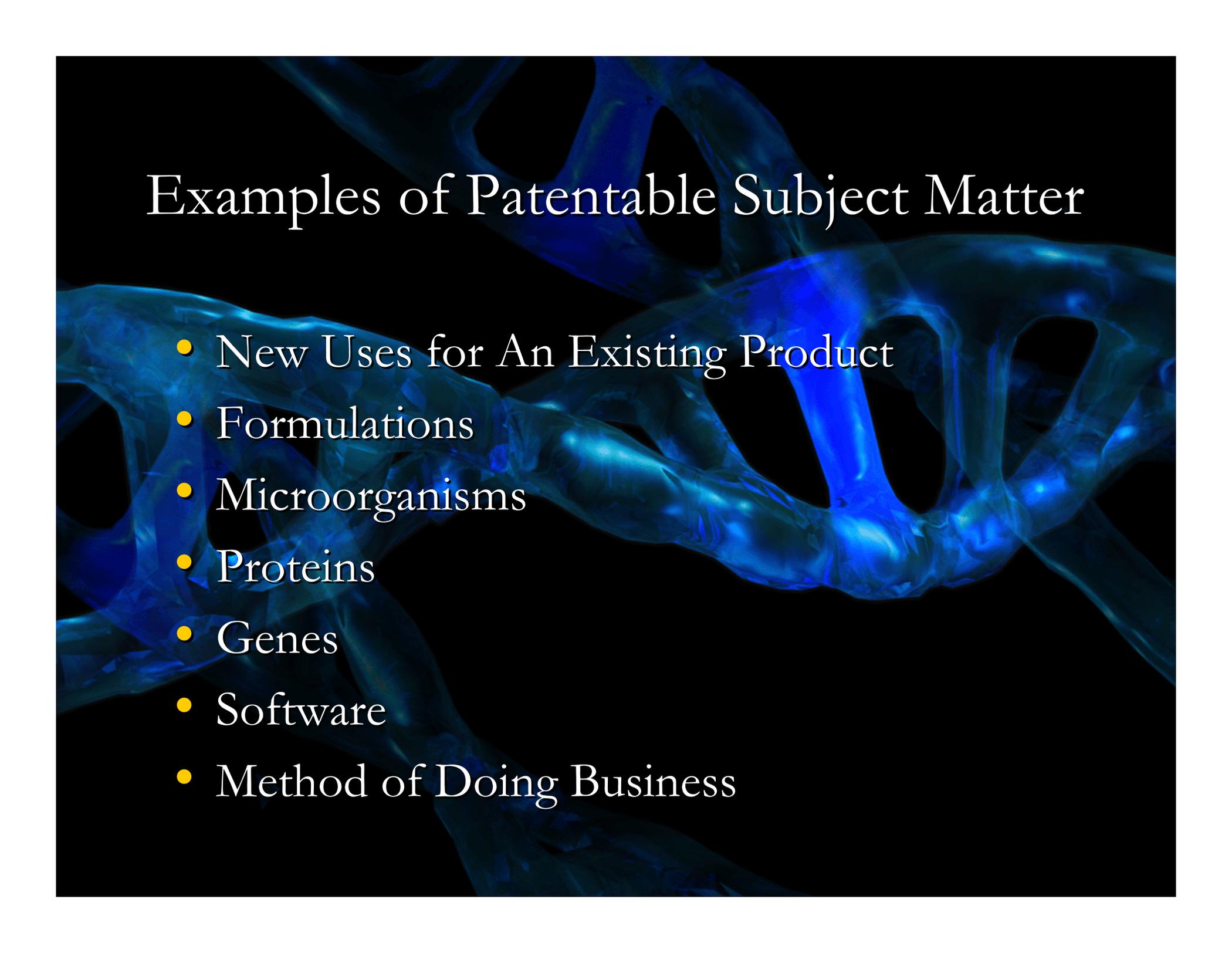
# Patentability Requirements

## I. The Invention

- A. Patentable Subject Matter
- B. New
- C. Useful
- D. Unobvious

## II. The Application

- A. Enabling Disclosure
- B. Utility
- C. Best Mode
- D. Claims
- E. Proper Inventors
- F. Duty of Disclosure



# Examples of Patentable Subject Matter

- New Uses for An Existing Product
- Formulations
- Microorganisms
- Proteins
- Genes
- Software
- Method of Doing Business

# Examples of Possible Subject Matter Compositions of Matter

- Nucleic acid molecules
  - Novel genes
  - Recombinant DNA molecules
  - Probes, primers, oligonucleotides
  - RNA molecules or constructs
  - Promoters
  - Enhancer elements
  - Biallelic markers
- Chemical Compounds
  - Novel compounds isolated from natural sources
  - Compounds (including those obtained from libraries or rational drug design)
    - Chemical compounds or pharmaceutical compounds
    - Proteinaceous compounds (e.g., peptide mimetics or receptor ligands)
- Isolated proteins or polypeptides
  - Novel proteins
  - Fusion proteins
  - Antibodies
  - Receptors
  - Ligands
  - Peptides or peptide linkers
- Microorganisms or Genetically Modified Cells/Plants/Animals
  - Transformed cell lines
  - Transgenic plants or animals
  - Bacterial strains
  - Viruses
  - Eukaryotic cells

# Examples of Possible Subject Matter for Biotech Inventions - Methods

- DNA sequencing or mapping techniques
- Processes for using/labeling polynucleotides
- DNA recovery & purification methods
- PCR related technologies
- Screening methods
  - Gene/chemical libraries
  - Functional screening assays
- Association of biallelic markers and disease states
- In vitro methods for predicting response to a drug or other substance
- Methods of diagnosis (nucleic acid or protein based)
- Methods of treating humans or animals
- Methods of making or using transgenic plants or animals

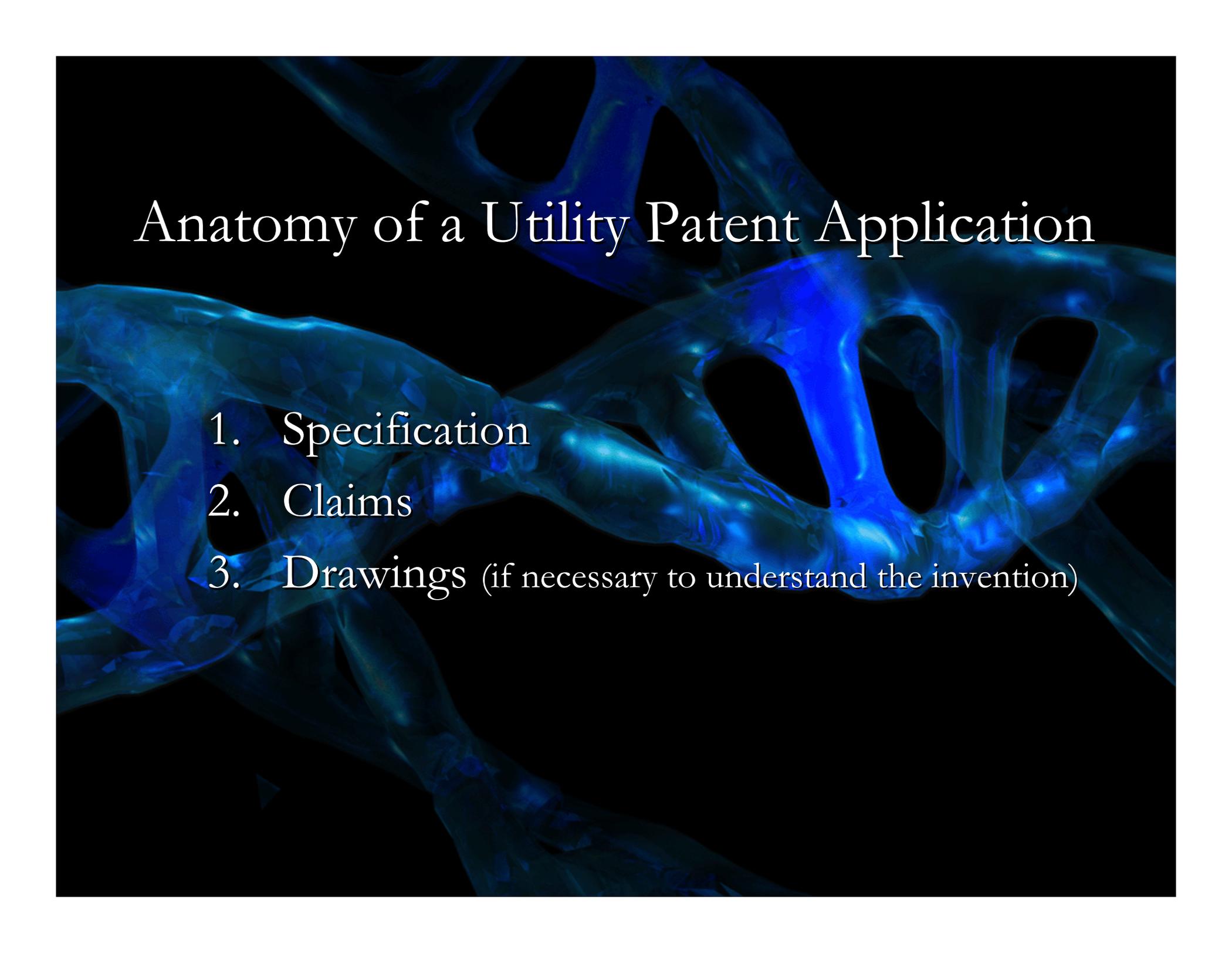
# Statutory Bars

Patent rights to an invention can be lost if you:

- Publicly use the invention;
- Sell or offer to sell the invention;
- Publish the invention in a printed publication or a patent;

before the filing of an application.

- Some countries have a “grace period”
- U.S. “grace period” is one year
- Most other countries have NO “grace period”



# Anatomy of a Utility Patent Application

1. Specification
2. Claims
3. Drawings (if necessary to understand the invention)

# Specification

- A written description of the invention in clear and concise terms.
- Must be *enabling*, that is describe the invention in such a way as to permit one of ordinary skill in the art to make and use the invention without resort to “undue experimentation”.
- Must disclose the *best mode* of making and using the invention. You can’t hold back material “secrets” for carrying out the invention.

# Claims

- Sentences that set out the “metes and bounds” of the invention (your property).
- Must “particularly point out” and “distinctly claim” the subject matter of the invention.
- Independent claim: does not reference any other claim.
  - Claim 1. A receptor comprising the amino acid sequence of SEQ ID NO: 1.
- Dependent claim: references an independent claim or another dependent claim. Adds subject matter (limitations) to the preceding claims(s).
  - Claim 2. The receptor of claim 2, wherein said receptor is encoded by the nucleotide sequence of SEQ ID NO: 2.

# Provisional Application

- Does not require claims; confers no “right to exclude” with respect to disclosed/claimed subject matter (if claims are present)
- Secures a filing date for a later-filed utility application if the disclosure of the provisional application is enabling for what is claimed in a later filed utility application
- Must be “converted” to a utility application within one year

# Foreign Filing

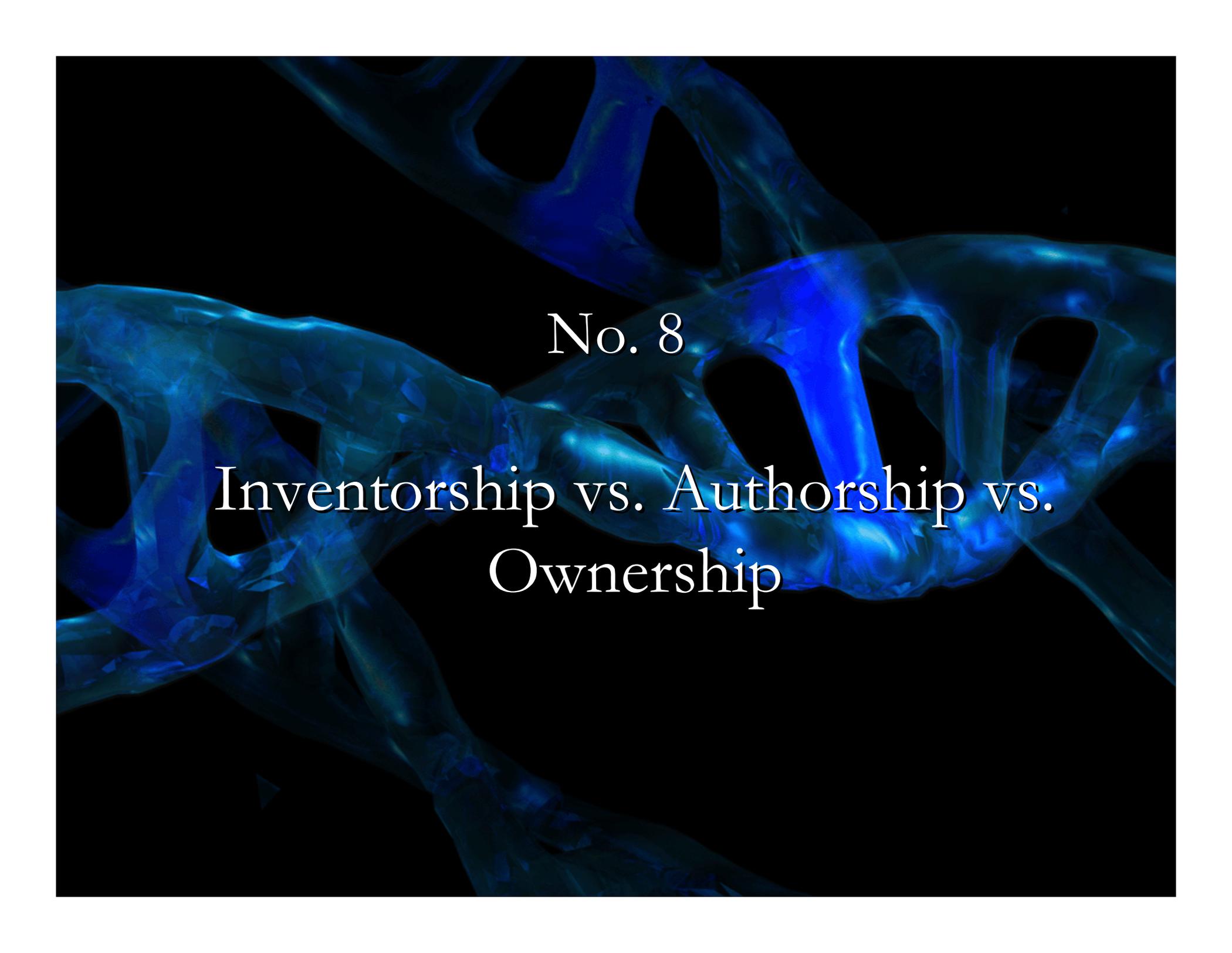
- Patents are essentially national grants. A U.S. patent provides protection in the U.S., but not in other countries.
- In order to obtain patent protection in other countries, the Applicant must file an application in each and every country where protection is desired.

# Timing of Foreign Filing

- Foreign applications must be filed within one year of the original national filing date in order to gain the priority benefits of the Paris Convention.

## Timing of Foreign Filing (cont'd.)

- This priority benefit is vital to preserve patent rights if there has been an intervening public use or disclosure of the invention, or if prior art references appear, after the date of the original filing but before the date of the foreign filing.

A glowing blue DNA double helix structure is shown against a black background. The structure is composed of two intertwined strands connected by horizontal rungs, all emitting a bright blue light. The text is centered over the structure.

No. 8

Inventorship vs. Authorship vs.  
Ownership

# Inventorship

- In the U.S., the patent application must be filed in the name of the inventor(s).
- Inventorship is purely a legal question, and is determined by examination of who contributed to the conception of what is being claimed.

## Inventorship (cont'd.)

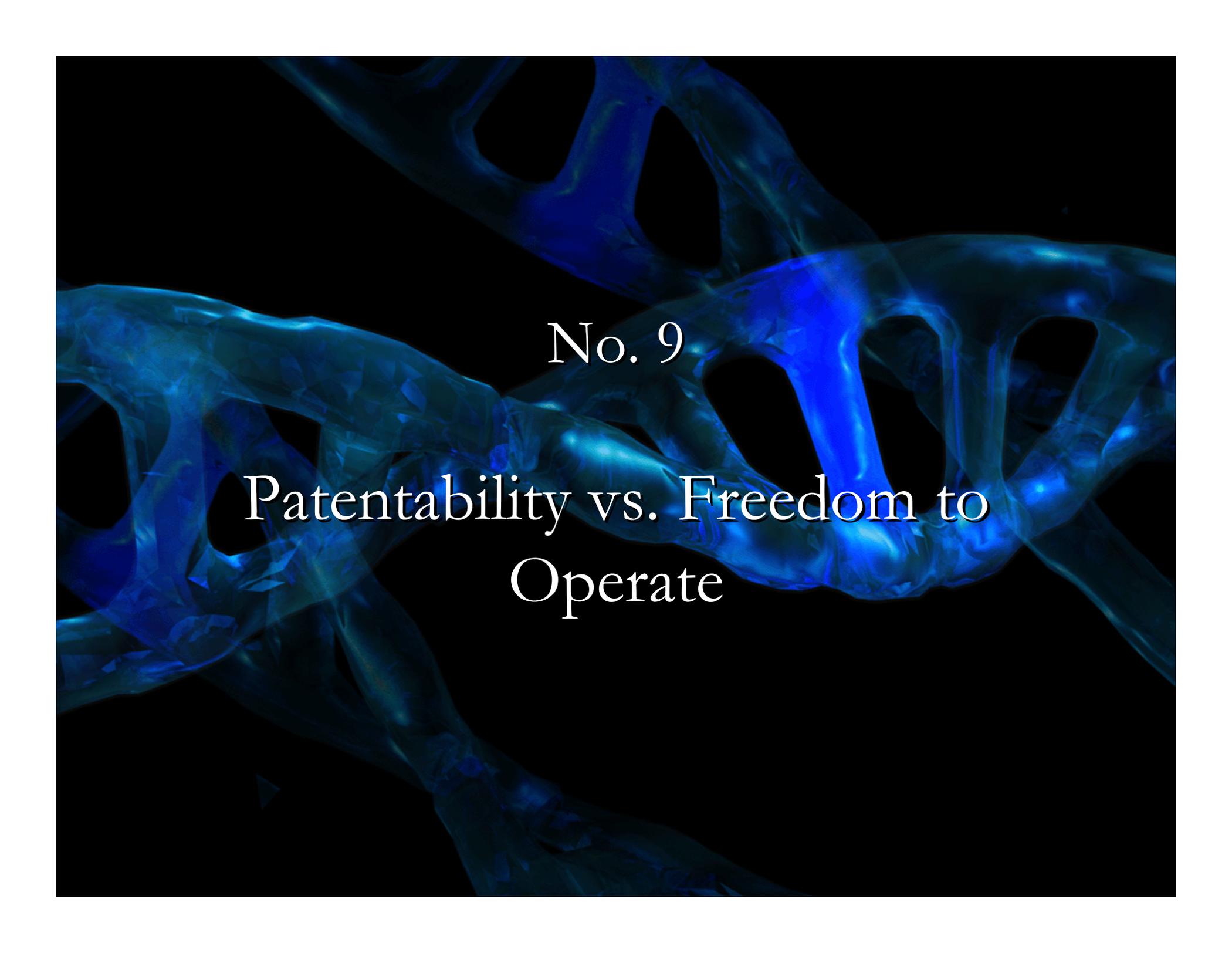
- An inventor can be anyone, and must be everyone, who contributes to the conception of that which is recited in the claims.
- Cannot be dictated by politics, funding, ego, or goodwill.

# Who owns the invention?

- Inventorship provides the starting point for determining ownership of patent rights.
- The inventor owns the patent application and issued patent provided that the inventor has not transferred the inventor's ownership interest to a third party.

# Ownership may be transferred

- By express agreement to assign
  - *E.g.*, an employment contract
- By implied agreement
  - *E.g.*, employee hired to invent and the invention reasonably relates to his/her employment
- State law governs

A glowing blue DNA double helix structure is shown against a black background. The helix is rendered with a semi-transparent, crystalline texture, giving it a futuristic and scientific appearance. The light blue color of the helix contrasts sharply with the dark background, highlighting its complex three-dimensional structure.

No. 9

Patentability vs. Freedom to  
Operate

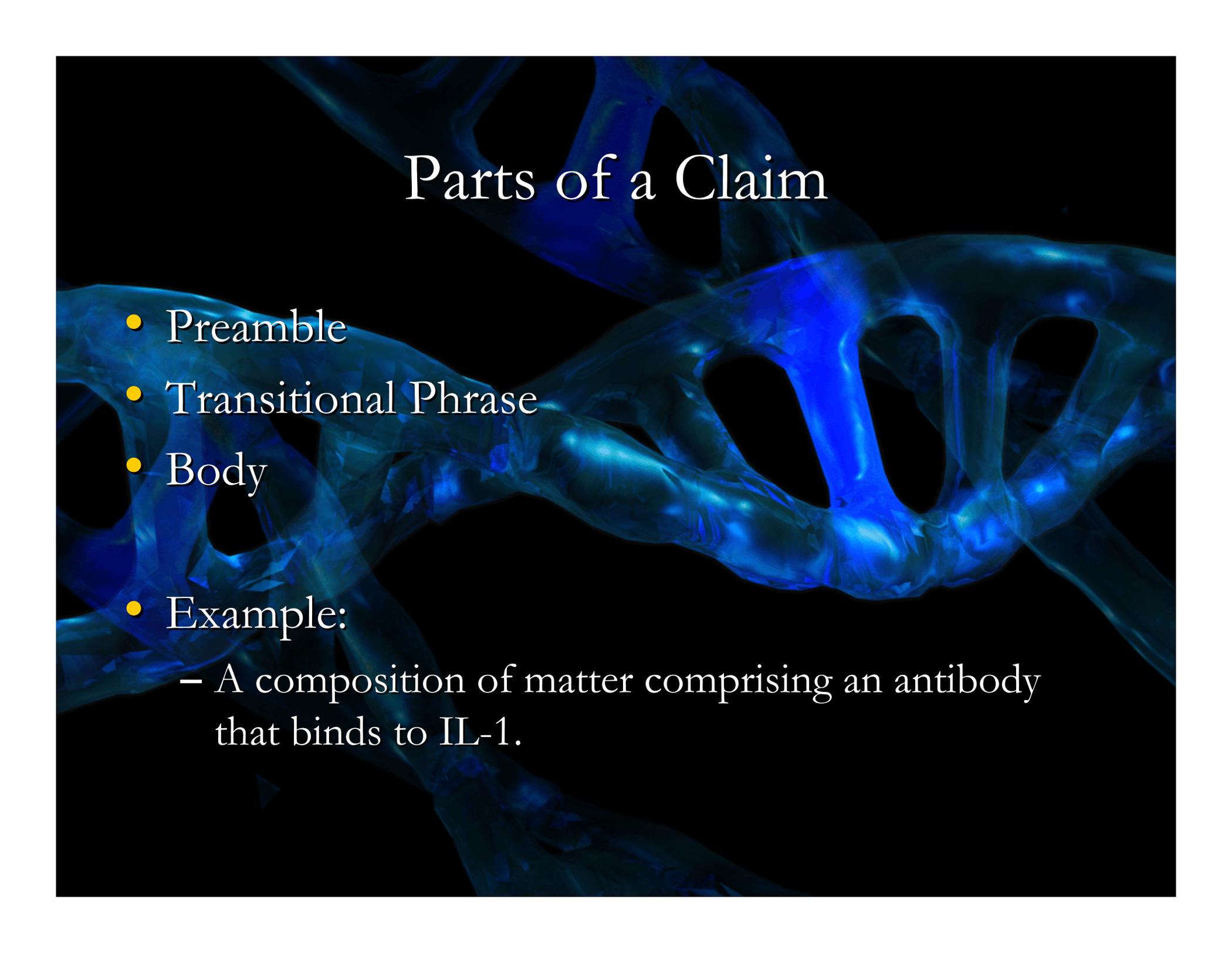
# What is the Difference Between Patentability and Freedom to Operate?

- Patentability – claimed subject matter meets the requirements for the grant of a patent (useful, novel, non-obvious, enabled, etc.)
- Freedom to Operate – no other patent precludes the manufacture, use and sale of your product or your ability to practice what is claimed in your patent

A glowing blue DNA double helix structure is shown against a black background. The structure is composed of two intertwined strands connected by rungs, all emitting a bright blue light. The text is centered over the middle of the structure.

No. 10

Patent Claims Define the  
Scope of Protection



# Parts of a Claim

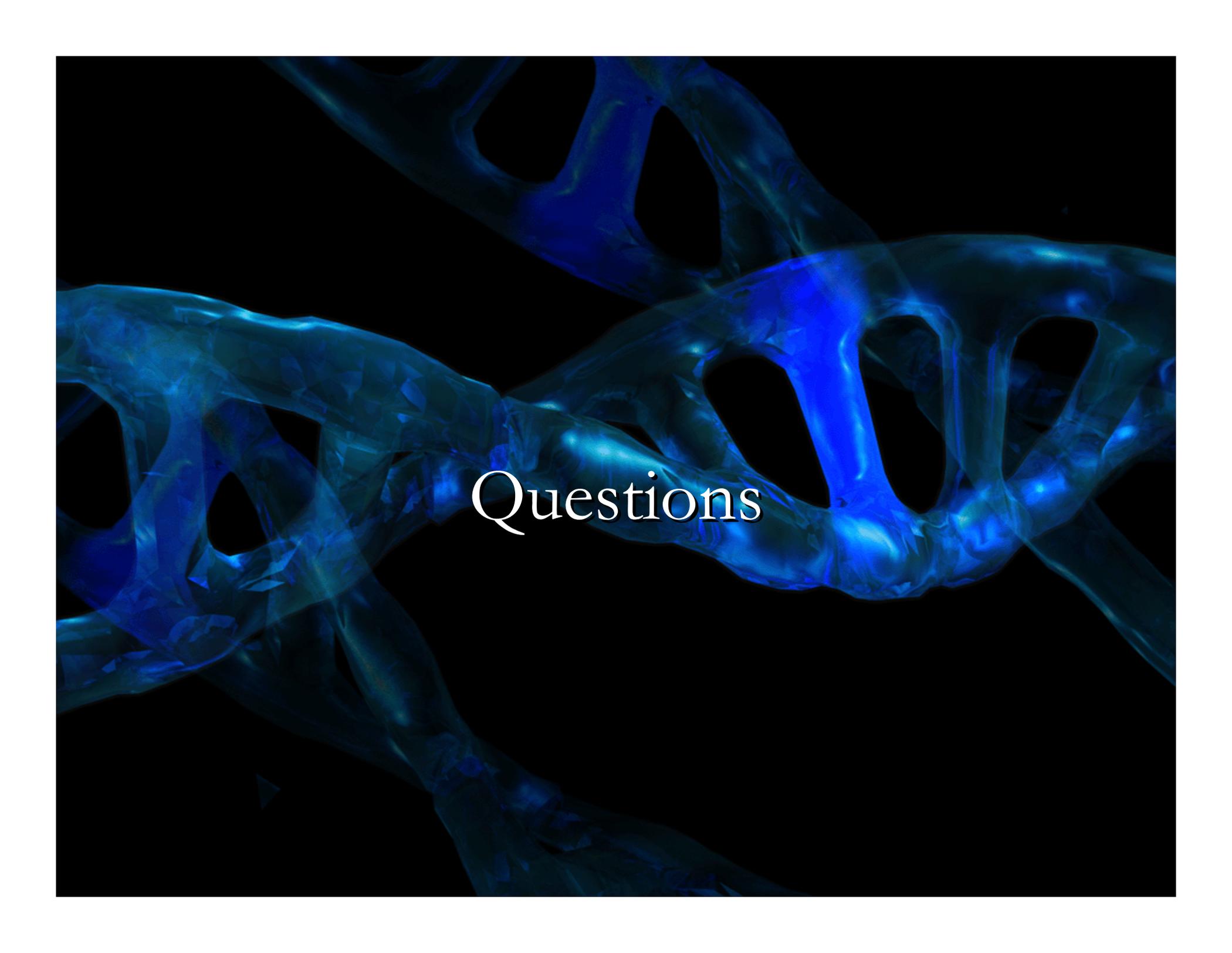
- Preamble
- Transitional Phrase
- Body
- Example:
  - A composition of matter comprising an antibody that binds to IL-1.

# Scope of Protection – Effects of Transitional Phrases

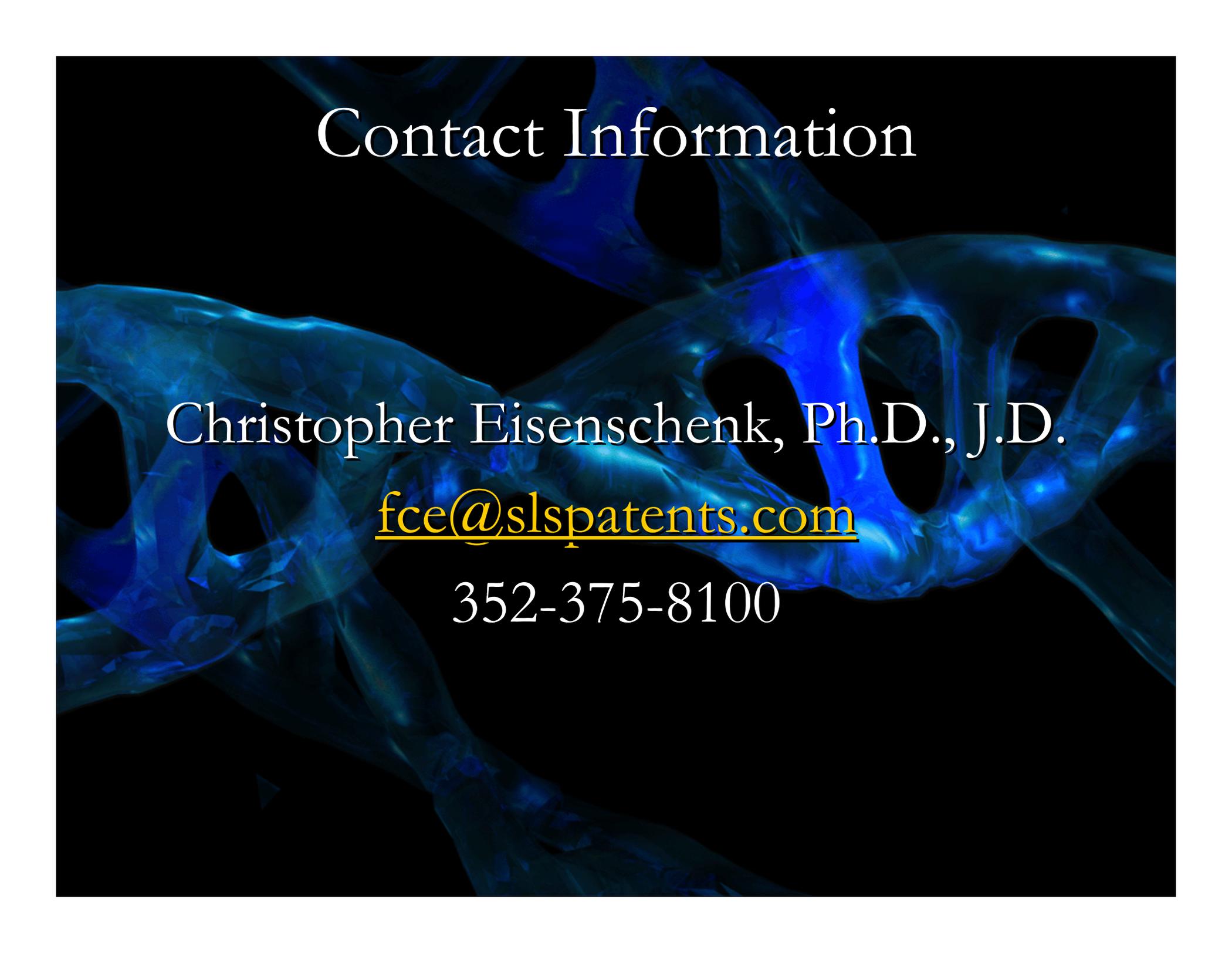
- “Comprising” – allows for the inclusion of other unrecited elements within the scope of the claim (does not exclude any additional, unrecited elements or method steps)
- “Consisting essentially of” – limits the scope of a claim to the specified materials or steps and those that do not materially affect the basic and novel characteristic(s) of the claimed invention
- “Consisting of” – excludes any element, step or ingredient not recited within the claim

# Claim Examples

- Example:
  - A composition of matter comprising an antibody that binds to IL-1 and stimulates the proliferation of T-cells but not B-cells and an excipient.
  - A composition of matter consisting essentially of an antibody that binds to IL-1 and stimulates the proliferation of T-cells but not B-cells and an excipient..
  - A composition of matter consisting of an antibody that binds to IL-1 stimulates the proliferation of T-cells but not B-cells and an excipient.

A glowing blue DNA double helix structure is shown against a black background. The structure is composed of two intertwined strands connected by horizontal rungs, all emitting a bright blue light. The word "Questions" is written in a white, serif font across the center of the image, overlapping the DNA structure.

Questions



# Contact Information

Christopher Eisenschenk, Ph.D., J.D.

[fce@slspatents.com](mailto:fce@slspatents.com)

352-375-8100