

# FIP (Feline Infectious Peritonitis) mRNA Vaccine

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#### ABSTRACT

Researchers at the University of California, Davis have developed an approach to combat Feline Infectious Peritonitis (FIP) through an in vitro-transcribed (IVT) RNA vaccine targeting the FCoV nucleocapsid (N) protein antigen.

#### **FULL DESCRIPTION**

This technology introduces a novel vaccine strategy against FIP, a fatal disease in cats caused by feline coronavirus (FCoV). Utilizing in vitro-transcribed (IVT) RNA molecules that encode the FCoV nucleocapsid (N) protein antigen, this vaccine aims to provide a protective immune response in cats, potentially overcoming the challenges faced by previous vaccine attempts.

#### **APPLICATIONS**

Veterinary vaccines for domestic cats, particularly those in high-density environments like shelters and catteries.

▶ Research tools in virology and immunology for studying FCoV and related coronaviruses.

Potential platform for developing similar vaccines against other coronaviruses in animals and humans.

#### **FEATURES/BENEFITS**

► Targets FCoV N protein antigen with high amino acid sequence identity for broader protection.

- ▶ Utilizes increased G/C content for enhanced expression.
- ▶ Incorporates advanced LNP formulation for efficient delivery and immune response.
- Designed to avoid antibody-dependent enhancement (ADE), increasing safety.
- Addresses a critical need in veterinary medicine with no effective FIP vaccine currently available.
- ▶ Addresses high mutation rate of FCoV leading to vaccine evasion.

#### **PATENT STATUS**

Patent Pending

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#### INVENTORS

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#### OTHER INFORMATION

**KEYWORDS** feline coronavirus, FIP, IVT RNA, LNP formulation, nucleocapsid protein, codon optimization, G/C content, veterinary medicine, immunogenicity

#### CATEGORIZED AS

#### Agriculture & Animal Science

## Animal Science

Veterinary

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- ► Vaccines

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