



# Transforming Discoveries into Products: *Maximizing NIH's Levers to Catalyze Technology Transfer*

## **Coronavirus Prefusion Stabilized Spike Proteins: A Mission-based Patent Application Filing Decision**

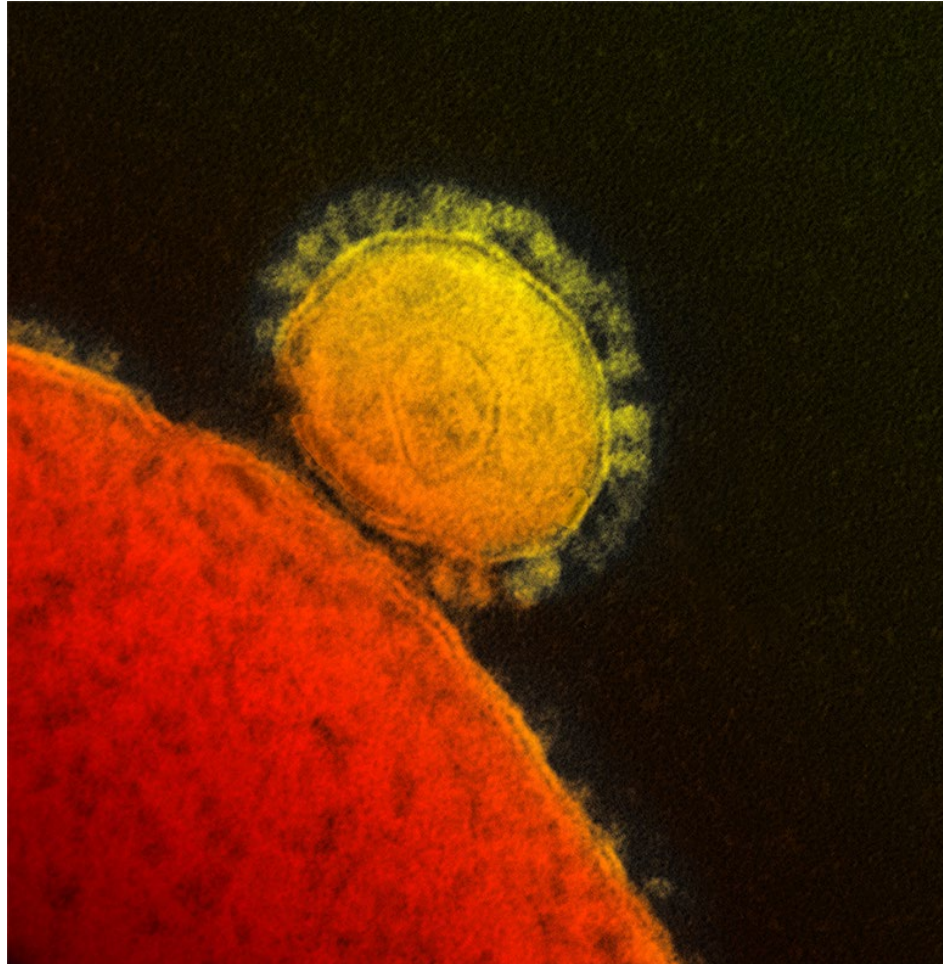
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National Institute of Allergy and Infectious Diseases (NIAID)  
National Institutes of Health



**National Institutes of Health**  
*Turning Discovery Into Health*

# Coronavirus vaccine research at VRC, NIAID



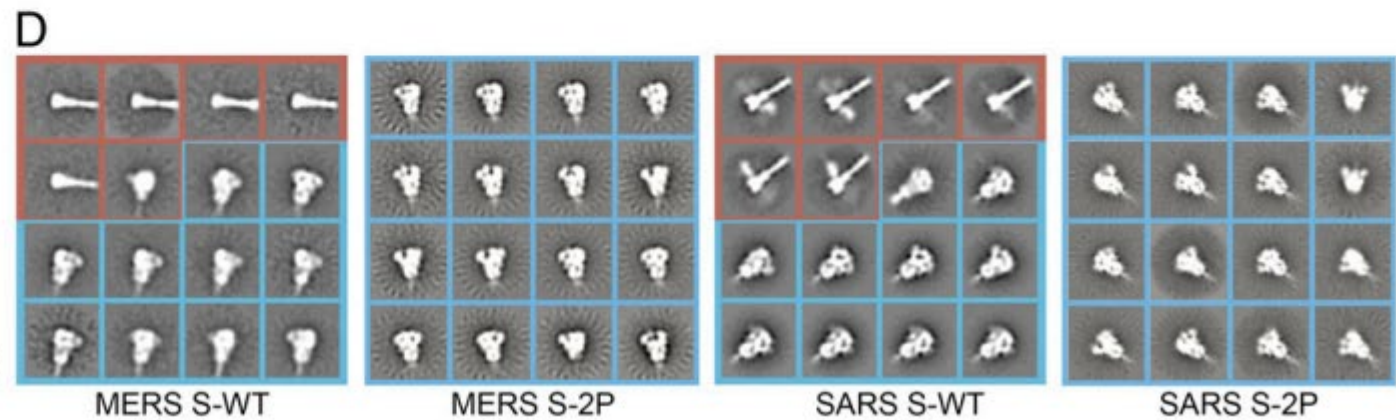
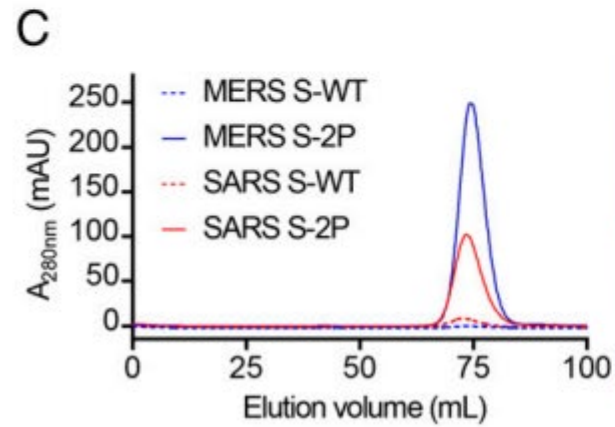
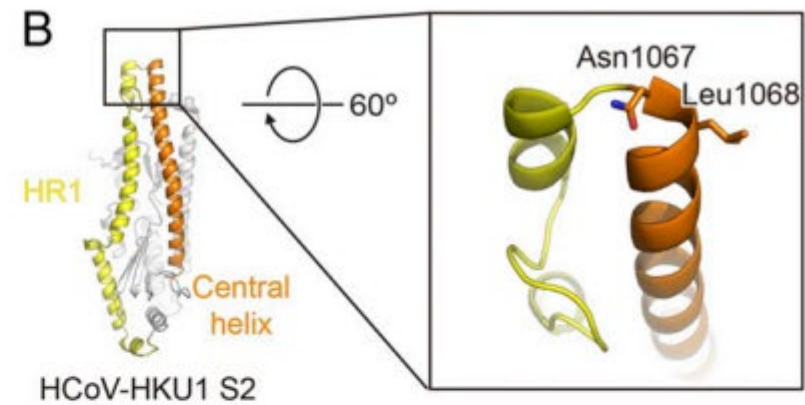
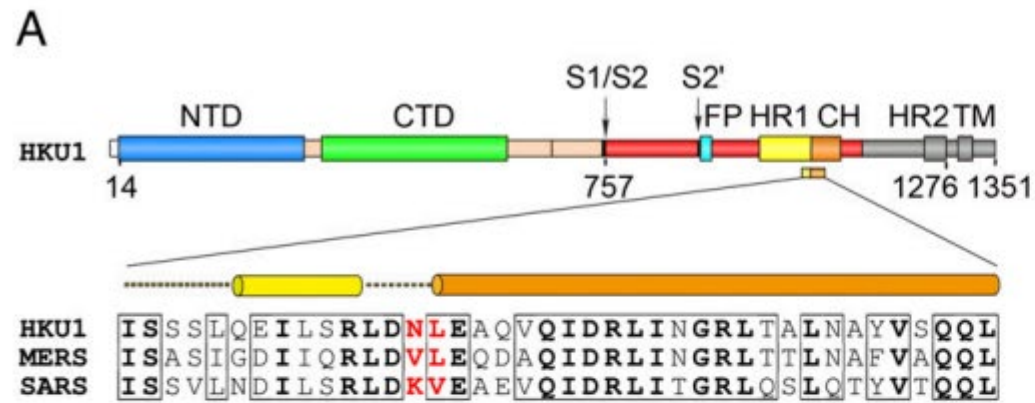
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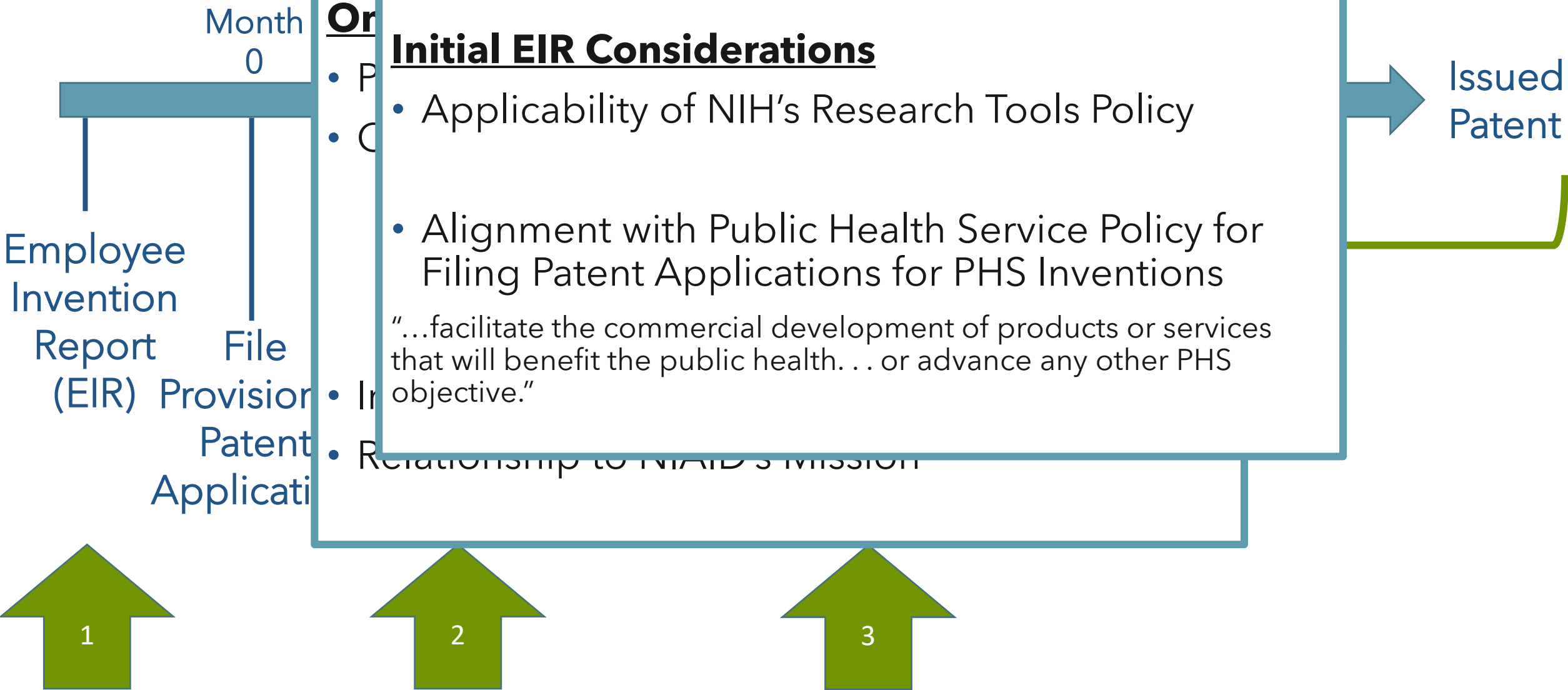
# NIAID Mission

To conduct and support basic and applied research to better understand, treat, and ultimately prevent infectious, immunologic, and allergic diseases. NIAID has a unique mandate, which requires the Institute to respond to emerging public health threats.

# An Invention



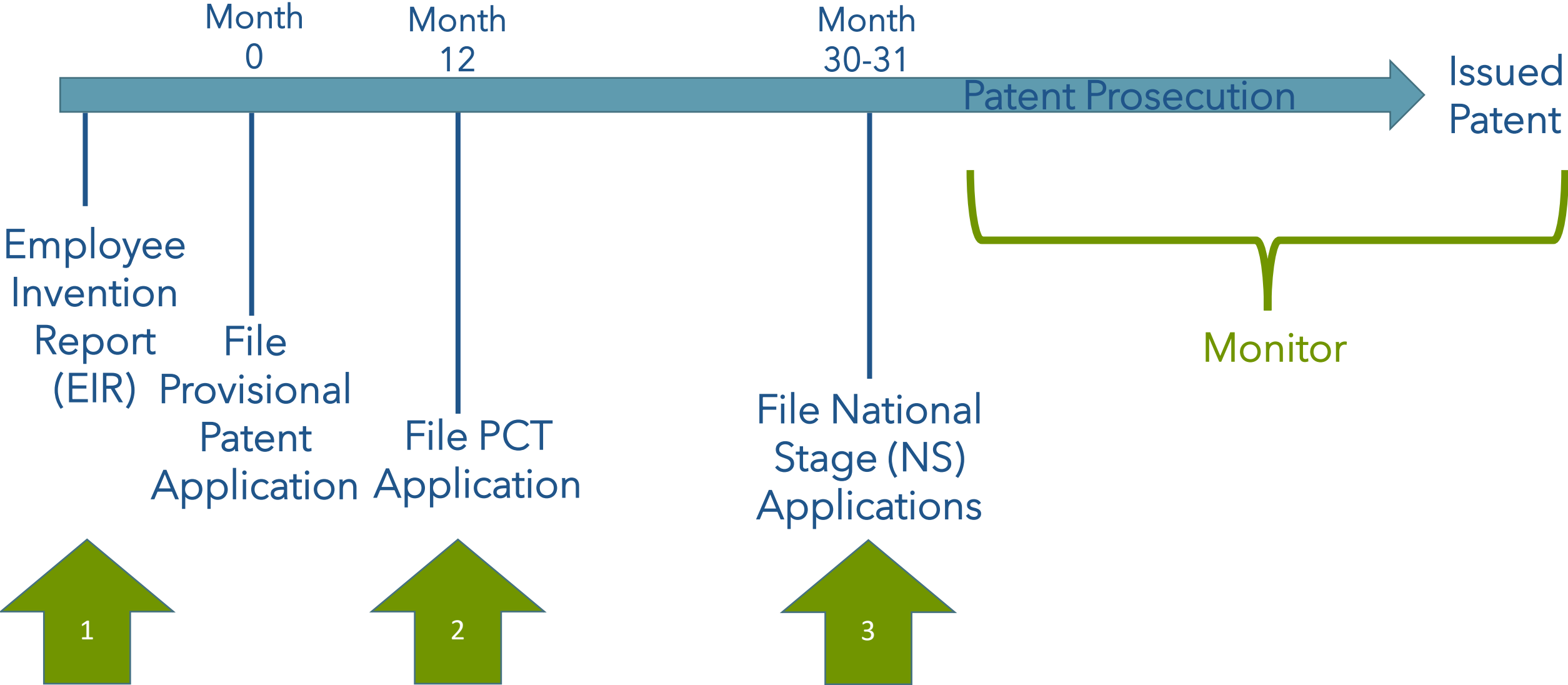
# NIAID's Typical Timeline for Patenting



# It Takes a Village . . . of Experts!

- Inventors
- Technology transfer professionals
- Ad hoc subject matter experts (e.g. extramural program officers)
- NIAID's Technology Evaluation Advisory Committee ('TEAC')
  - NIH employees with relevant expertise
    - Scientific
    - Product Development
    - IP

# NIAID's Typical Timeline for Patenting

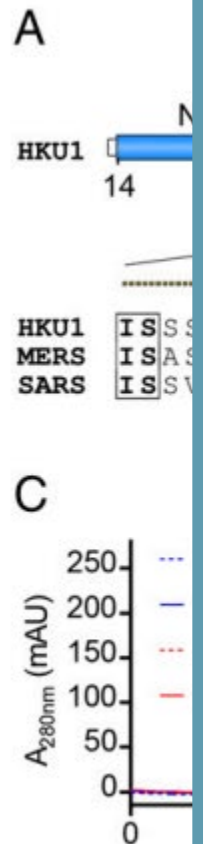


# Summer 2016 - An Invention

## Factors Supporting This Decision

- Upcoming public disclosure (securing USG's rights) motivated timing
- Lack of authorized CoV vaccine or CoV vaccines in advanced development
- Alignment with NIAID mission

**U.S. Provisional Patent Application Filed October 2016**





# February 2019 – NS Patent Application Filing Decision

## Factors Supporting This Decision

- Invention
  - Demonstrated efficacy in murine model
  - Collected and characterized novel virus and
- International patent strategy
  - No prior art
- Alignment with NIAID mission
- Ability

• No licensed **Filed Patent Applications in US and Europe - April 2019**

# Continued Monitoring

- January 2020 - CoV identified as causative agent of pneumonia outbreak
- December 2020 - Prefusion stabilized spike protein incorporated into Emergency Use Authorized-SARS-CoV-2 vaccines
- 2021 - Licensing Executive Society's Deals of Distinction
- March 2022 - Licensed to MPP for WHO's COVID-19 Technology Access Pool (C-TAP)
- 2022 - USPTO's Patents For Humanity Awardee



# Acknowledgements

## Inventors

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Office of Technology Development,  
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**Thank you!**

