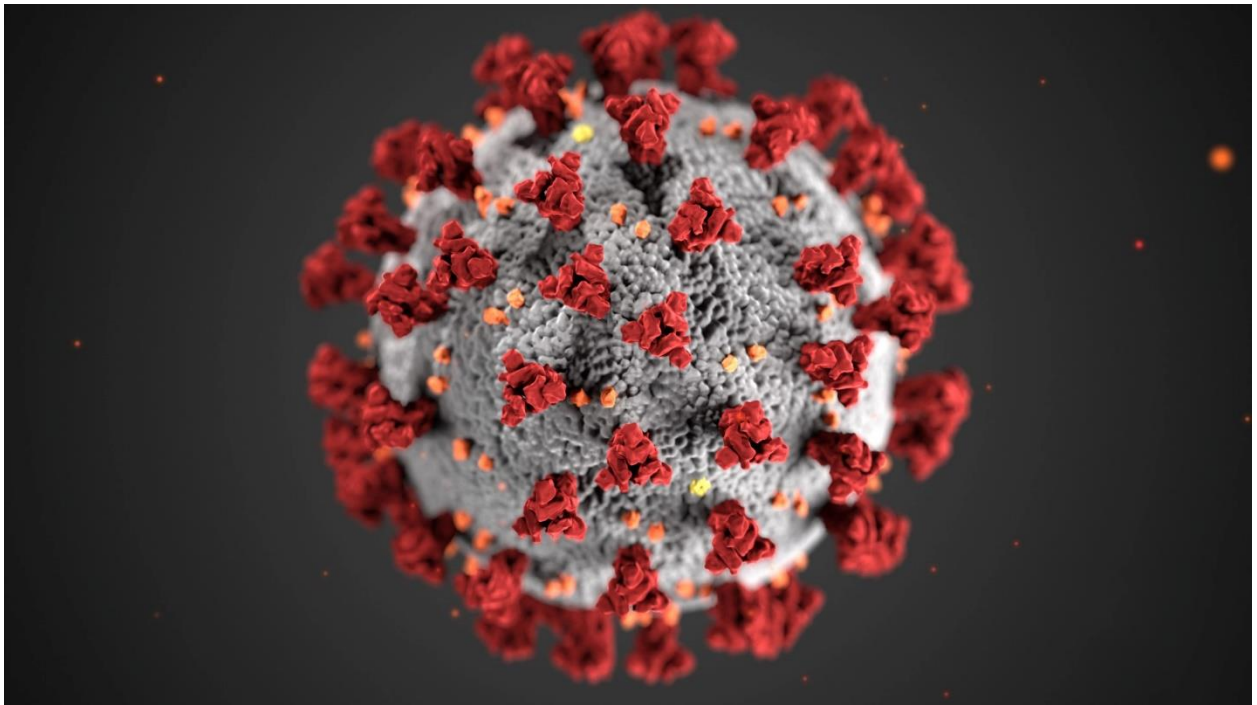


## Developing a COVID-19 Vaccine

### Project Proposal



2020





## Keren Kayemeth Lelsrael—Jewish National Fund

### INTRODUCTION:

The highly contagious nature of the Corona Virus (COVID-19) disease, coupled with its severity and the lack of effective treatment, has led to a terrible pandemic with almost 70,000 deaths all over the world and severe disruptions in the economy and day-to-day functioning of the entire developed world. Several research groups throughout the world are now working intensively to create a vaccine against this virus. One of these groups, **MIGAL** is funded by Keren Kayemeth Lelsrael - Jewish National Fund (KKL-JNF) as part of our support program for high-tech companies in Northern Israel. MIGAL is an internationally recognized, multi-disciplinary applied research institute, which specializes in biotechnology, computer sciences, plant science, precision agriculture, environmental sciences, and food-tech (nutrition and health).

MIGAL is a recognized powerhouse of applied research that for forty years has cooperated closely with industry leaders, innovative startups, and technological accelerators. MIGAL's employees include 90 PhDs and 190 researchers distributed across 44 research groups, operating as an innovative research ecosystem that encourages collaboration across scientific, industrial, agricultural, academic and technological specialties. MIGAL has already developed a vaccine for a similar avian virus and scientists believe that it can be adapted to develop a vaccine for the COVID-19, positioning them ahead of similar research groups.

The whole world has recognized the importance of funding as many research groups as possible, in the effort to relieve the world from the effects of COVID-19. KKL-JNF has a long-standing relationship in supporting MIGAL and its scientific work. We believe the solution could come from this inspiring biotech in Israel. KKL-JNF invites you to be a partner with us on a life saving odyssey that could benefit all of humankind.

### PROJECT DESCRIPTION AND BACKGROUND:

Four years ago, MIGAL initiated a program to develop a vaccine against Infectious Bronchitis Virus (IBV), an avian (poultry) coronavirus highly similar to the human COVID-19 virus, which has the same infection mechanism. The scientists found the bird virus has a similar genetic code and infects individuals in the same way as the deadly new Corona Virus in humans. With the help of further research, the scientists hope to adjust the IBV vaccine to the COVID-19 virus. These steps will potentially allow the initiation of production of a vaccine to counter the COVID-19 pandemic currently spreading throughout the world. In addition, the team developed a commercial GMP





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(good manufacturing practice) standardized production method, including fermentation and protein collection. The MIGAL vaccine has several advantages: it is based on four years of study, it is safe (does not contain live viruses) and it can be administered orally.



### SUPPORT FOR THE PROJECT:

KKL-JNF seeks your generous support in the amount of 560,000 USD to facilitate the MIGAL Research Institute in advancing clinical trials. This project will provide MIGAL's Vaccine Knowledge Center (VKC) to enhance the development of a vaccine to fight the Corona Virus pandemic. MIGAL is developing an oral COVID-19 vaccine that hopefully will be ready for in-vivo testing (testing on whole living organisms) in 90 days.

Contribution and funding of the MIGAL Vaccine Knowledge Center will accelerate the center's research activities and advance the capabilities of the current COVID-19 vaccine development as well as additional vaccines for future epidemics. This platform will allow the rapid adaptation of new vaccines to viruses and epidemics that are constantly undergoing changes and continue to attack every few years in different parts of the world.

- Contribution of 140,000\$ will fund a PhD Scientist (virology expert) for 1 year.
- Contribution of 80,000\$ will fund a Research Assistant (bioinformatics expert) for 1 year.
- Contribution of 340,000\$ will fund a cutting-edge equipment with next generation technologies in microbiology and protein design such as:
  - ✓ KINGFISHER FLEX 96 for Corona Virus COVID-19 DNA and RNA analyzing.





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- ✓ FACSCanto II SYSTEM for proteins coloring with lasers,
- ✓ Ultra Centrifuge for viruses separation from their cell culture
- ✓ LENOVO SR950 – A strong Computing Server for proteins structure calculation.

With your contribution Israel can make a significant impact

KKL-JNF invites you to become part of this meaningful endeavor

**Donor recognition assured**

[Contact us](#)

<http://www.kkl-jnf.org>

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