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MEDIA UPDATE

Novartis acquires Arctos Medical, expanding optogenetics portfolio to bring gene therapies to patients with severe vision loss

- *Acquisition underscores Novartis commitment to using optogenetics-based therapies to restore vision to patients with advanced blindness*
- *Novartis gains one pre-clinical optogenetic AAV gene therapy program and Arctos' proprietary technology introducing a distinct mechanism of action*
- *Technology joins growing portfolio being developed at Novartis for potential treatment of vision loss*

Basel, September 21, 2021 — Novartis today announced that it has acquired Arctos Medical, adding a pre-clinical optogenetics-based AAV gene therapy program and Arctos' proprietary technology to its ophthalmology portfolio. The acquisition underscores the Novartis commitment to finding treatments for patients with vision loss and the potential of optogenetics as the basis of successful therapeutics.

"Optogenetics is emerging as a promising therapeutic approach that might restore sight to patients who are legally blind," said Jay Bradner, President of the Novartis Institutes for BioMedical Research. "The Arctos technology builds on our conviction that optogenetic gene therapies may meaningfully help patients battling devastating eye diseases."

Arctos developed its technology as a potential method for treating inherited retinal dystrophies (IRDs) and other diseases that involve photoreceptor loss, such as age-related macular degeneration (AMD). Existing gene therapy treatments aim to correct a specific gene, so only a small subset of patients can benefit. The Arctos technology is not limited to a specific gene, and thus can potentially address many forms of IRDs regardless of the underlying mutation. Arctos' proprietary, light-sensitive optogene is delivered to specific retinal cells using gene therapy, thus turning the targeted cells into replacement photoreceptor-like cells. If successful, a therapeutic based on such a technology could be used to treat any disease that causes blindness due to photoreceptor death.

"We've watched this technology develop and mature into a therapeutic program that complements our existing portfolio and gives us new optogenetics technology to wield in our efforts to bring desperately needed therapeutic options to patients for these blinding diseases," said Cynthia Grosskreutz, Global Head of Ophthalmology at the Novartis Institutes for BioMedical Research.

IRDs, which impact more than 2 million people globally and often result in complete blindness, can be caused by mutations in over 100 different genes.[1] AMD is the leading cause of visual disability, affecting an estimated 170 million people globally.[2] There are no curative therapies

currently available for AMD.

The Arctos technology was based on discoveries by its scientific co-founders Drs. Sonja Kleinlogel and Michiel van Wyk of University of Bern, Switzerland. Arctos was originally incubated by +ND Capital and was later supported by Novartis Venture Fund through a Series A financing round led by +ND Capital.

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