

With cheap eye drops Gene Signal from Lausanne could negate the billions of dollars of the pharmaceutical giant

With the expensive Lucentis in ophthalmology, which is injected directly into the eye, the two Basel-based pharmaceutical companies Novartis and Roche profit from a cash cow. For Roche, whose daughter company, has developed the drug and holds the distribution rights for North America, it was last year the fourth most important drug with \$ 1.7 billion in sales. At Novartis, which sells it outside North America, it was even number two with a turnover of \$2.4 billion.

Well Gene Signal, a biotech company founded in 2000, headquartered on the campus of the Federal Polytechnic School of Lausanne, is challenging this supremacy. The privately held company has developed a drug that acts like Lucentis against one of the most common eye diseases in the world, age-related macular degeneration (AMD). In this disease, proliferating blood vessels damage the retina, which often leads to blindness. Worldwide, an estimated 30 million people are affected - a huge market.

Gene Signal announced this week positive results with eye drops to treat another rare eye disease. This also grows unwanted blood vessels, but not in the retina, but in the cornea. In the last of three phases of clinical research, this has shown that the drug reduces the unwanted growth of blood vessels and is safe. This reduces the need for a corneal transplant.

Gene Signal is confident that the drug is effective against age-related macular degeneration because the formation mechanism of the two diseases is similar. According to CEO and co-founder Eric Viaud, the second clinical research phase begins in September, in which the evidence of efficacy for AMD is to be provided.

If the drug comes to market, it will be the "revolution" for the patient, says Viaud. Because unlike Lucentis, it must not be injected by a hospital doctor once a month in the eye. This relieves the health care system which is under cost pressure. Cheaper is also the drug itself. Compared with Lucentis, a biotechnology and correspondingly expensive agent, the drug from Gene Signal is a conventional chemical preparation. "Therefore, it is much cheaper to produce," says Eric Viaud.

For years there have been a dispute about Lucentis because Roche's cancer drug Avastin is also effective against AMD, but at a fraction of the price of Lucentis costs. The two companies are accused of preventing the use of Avastin in AMD with anti-competitive price fixing. Instead, much more expensive Lucentis should be used. Therefore, the Italian competition authorities have given them recently a fine of 180 million euros. Both groups are challenging this. The French competition authorities are also reviewing the case.

30 million

Worldwide, approximately 30 million people are affected by age-related macular degeneration.