



# OKG-0301

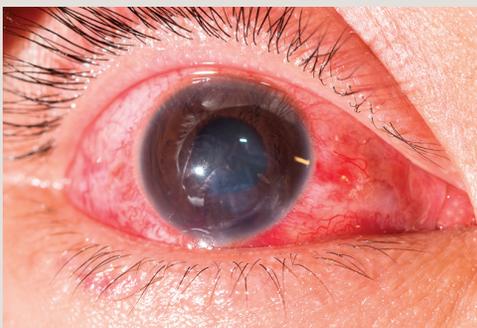
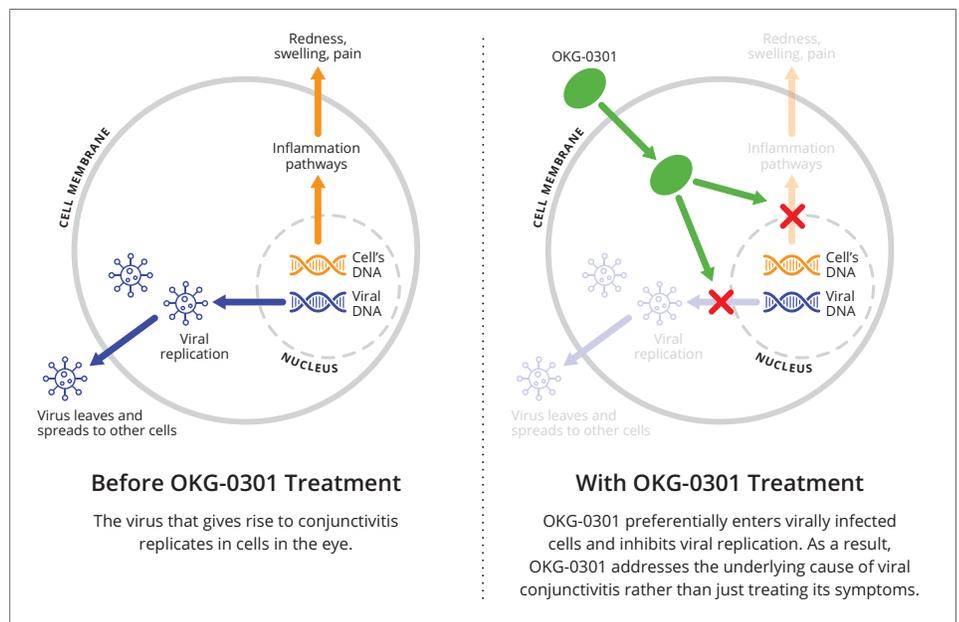
## A Novel Approach to the Long-Standing Challenge of Viral Conjunctivitis

Okogen is an ophthalmic specialty pharmaceutical company focused on developing innovative therapies to treat diseases of the eye. The company's lead product development program, OKG-0301, targets adenoviral conjunctivitis (commonly known as pink eye), a viral infection that affects approximately 25 million people worldwide each year and for which there are no approved therapies. Viral conjunctivitis is highly contagious and, if not managed effectively, may result in permanent vision loss.

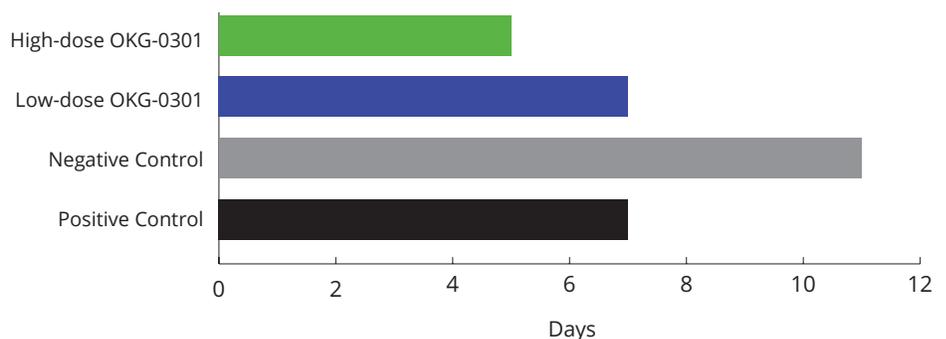
Despite their lack of efficacy against a viral infection, physicians often prescribe antibiotics to patients who are desperate for relief from the eye pain, redness, swelling and discharge that result from viral conjunctivitis. While these symptoms cause significant discomfort and embarrassment, inappropriate use of antibiotics contributes to the growing problem of antibiotic resistant bacteria. There are no approved therapies to treat the underlying cause of viral conjunctivitis.

## OKG-0301 Has Demonstrated Antiviral and Anti-Inflammatory Activity and Could be a First-In-Class Therapy in a Disease for Which There are no Effective Therapies Today

OKG-0301 has a novel mechanism of action that allows it to preferentially localize within virally infected cells, where it inhibits viral replication and reduces pro-inflammatory signaling. It has an extended duration of action compared with therapies that remain outside the cell, which are rapidly cleared each time the eye blinks. Preclinical studies demonstrate that OKG-0301 significantly accelerates viral clearance in an accepted animal model of eye infection. It has also been shown to reduce the period of viral shedding, which is important for reducing the spread of infection both from person to person and from infected to uninfected eyes in individual patients. If shown effective in human clinical trials, OKG-0301 would be a first-in-class therapy that would enable early intervention in patients with viral conjunctivitis. Such intervention is essential for protecting eye health and limiting the spread of conjunctivitis.



## Number of Days Patient is Contagious



# OKG-0301

## Leveraging a Defined Bioactive Therapeutic to Accelerate Development of an Effective Therapy for Viral Conjunctivitis

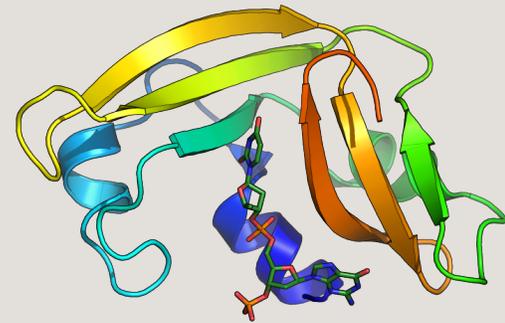
OKG-0301 is an ophthalmic formulation of ranpirnase, a bioactive therapeutic that has been evaluated as an intravenous formulation through late stage oncology clinical trials in more than 800 patients. Ranpirnase is a member of the RNase A family of proteins, which has evolved throughout nature as a defense mechanism against infectious agents. Ranpirnase is purified from the eggs of the Northern Leopard Frog (*Rana pipiens*), where it works to prevent viral infection of the egg and developing frog embryo. This version of RNase A escapes the human cell's natural ability to degrade ribonucleases. A human form of RNase A is naturally present in tear film, where it helps to prevent infection.

*In vitro* data demonstrate that ranpirnase is effective against more than 15 families of viruses, including adenovirus and herpes simplex virus and *in vivo* studies of ocular adenoviral infection show a dose response profile for ranpirnase. Clinical data demonstrate that ranpirnase is effective in resolving dermal viral infections in more than 50 patients with human papillomavirus.

## Defined and Efficient Development Timeline Creates Near- and Mid-Term Opportunities for Value Creation

The extensive body of ranpirnase clinical safety data from oncology trials and robust preclinical data for OKG-0301 reduces development risk of this potentially first-in-class therapy for a serious ophthalmic condition that has significant unmet need and no approved treatment options. The highly defined chemistry, manufacturing and control (CMC) profile for ranpirnase should reduce the time and cost of OKG-0301 development activities. Additionally, Okogen has a strong intellectual property position for OKG-0301 around its use in the treatment of ocular viral infections, which creates a high barrier for competition.

Phase 2 trials of OKG-0301 are expected to commence in Australia and the United States in late 2018 and in 2020, respectively, with potential market entry in 2023.



Ribbon structure of the ranpirnase protein

### Epidemiology

**3,000,000** cases in the USA  
**22,000,000** cases outside the USA  
**25,000,000** annual incidence globally

Reportable disease in Japan and Germany

Largely underreported in the USA

### Standard of Care Today

**No approved therapeutics**

- Course of disease is up to 21 days
- Patients are contagious 10-14 days
- Children and adults

**Today, care is primarily supportive**



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