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(71) Applicant: **FRED HUTCHINSON CANCER CENTER** [US/US]; 1100 Fairview Avenue North, Seattle, Washington 98109 (US).

(72) Inventors: **JEROME, Keith**; c/o Fred Hutchinson Cancer Center, 1100 Fairview Avenue North, Seattle, Washington 98109 (US). **AUBERT, Martine**; c/o Fred Hutchinson Cancer Center, 1100 Fairview Avenue North, Seattle, Washington 98109 (US).

(74) Agent: **CHEEMA, Sangeeta K.** et al.; Christensen O'Connor Johnson Kindness PLLC, 1201 Third Avenue Suite 3600, Seattle, Washington 98101-3029 (US).

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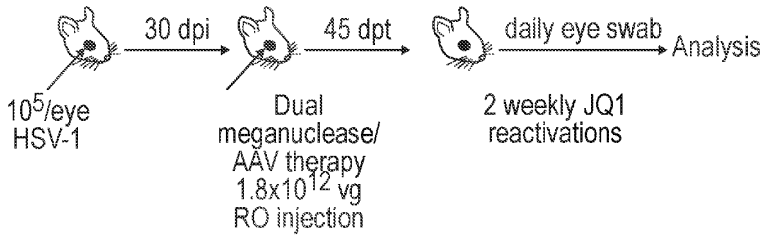


FIG. 5A

(57) Abstract: Embodiments of the present disclosure are directed to methods and compositions for treating recurrent Herpes simplex virus (HSV) disease associated with latent Herpes simplex virus type I(HSV-1) reactivation in a subject. In some embodiments, the composition comprises a plurality of at least three different adeno-associated viral vector (AAV) serotypes, each viral vector serotype comprising a first nucleic acid sequence encoding a first HSV-1-specific meganuclease, and a second nucleic acid sequence encoding a second HSV-1-specific meganuclease, separately. In some embodiments, the composition comprises an adeno-associated viral vector serotype comprising at least one sequence encoding an HSV-1-specific meganuclease targeting a duplicated region of the HSV-1 genome. In certain embodiments the adeno-associated viral vectors disclosed herein further comprise a neuron-specific promoter.

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