

subjected to high throughput screening as described above to measure the percent of the infected cells in each well. The average percent infected in each well was calculated from 9 individual spots read in each well. The data were then graphed by plotting % infected on Y-axis against carried over compound concentration and the respective resulting MOI on the X-axis and are shown in FIG. 10C. As shown in FIG. 10C, except for the first two drug concentrations (12.5 and 6.25  $\mu$ M) where inhibition was expected as result of carry over, the compound curves overlap with the DMSO curve, thereby suggesting that pretreatment of the virus with the compounds had no effect on activity of the virus.

#### Other Viruses

##### 1. Cowpox Virus

**[0199]** The effect of the compounds of the present invention on poxvirus was examined in a mouse model of cowpox virus ("CPXV", egfpCPV virus). See Goff et al. (2007) *Virus Research* 128 (1-2):88-98, which is herein incorporated by reference. In these experiments, BALB/c mice were injected (i.p.) with 5 mg/kg NSC 306265, or mg/kg for NSC 369723, NSC 294199, or NSC 300510 on days 0, 2, 5 and challenged with  $5 \times 10^7$  pfu i.p. of CPXV on day 0. Food and water were provided to the mice and the mice were monitored for at least 14 days post challenge. Percent survival on each day was calculated and plotted and is shown in FIG. 11. In this experiment, NSC 306365 provided an increase in the mean time to death.

##### 2. Monkeypox Virus

**[0200]** Compounds that showed activity toward MPXV-GFP in the initial screening were also tested for inhibitory activity toward a recombinant monkeypox virus expressing GFP (MPXV-GFP). The monkeypox virus (Zaire strain) expressing GFP was made in the same manner as described in Goff et al. (2007) *Virus Res.* 128 (1-2):88-98, Epub 2007 May 23, which is herein incorporated by reference. Vero E6 cells ( $5 \times 10^4$  cells/well) were grown to monolayers in 96 well plates to which 20  $\mu$ M of each compound was added to a given well. Subsequently (within about 1 to about 2 hours),  $5 \times 10^4$  of MPXV-GFP was added to the cells and then the cells were incubated at 37° C. for 48 hours. Then the cells were fixed for 3 days in formalin, the nuclei were stained with Hoechst Dye. To quantify the percent infection and the intensity of green fluorescent light from GFP expression, a Discovery-1 high content screening device (Molecular Devices Corp., Downingtown, Pa.) was applied for 9 regions per well. Percent infection in the treated cells was compared with untreated cells (controls) on the same 96 well plates. The activity of these compounds is provided in Table 1.

**[0201]** Although the experiments exemplified herein are based on mice and mouse cells and tissues, other subjects, such as humans, non-human primates, and other animals, and cells and tissues thereof are contemplated herein.

**[0202]** To the extent necessary to understand or complete the disclosure of the present invention, all publications, patents, and patent applications mentioned herein are expressly incorporated by reference therein to the same extent as though each were individually so incorporated.

**[0203]** Having thus described exemplary embodiments of the present invention, it should be noted by those skilled in the art that the within disclosures are exemplary only and that various other alternatives, adaptations, and modifications

may be made within the scope of the present invention. Accordingly, the present invention is not limited to the specific embodiments as illustrated herein, but is only limited by the following claims.

We claim:

1. A method of preventing, inhibiting, or reducing the viral activity of a virus on or in a cell or a subject which comprises administering to the cell or the subject an effective amount of a compound having a structural formula selected from the group consisting of

