**Introduction**

N-chlorotaurine (NCT), an endogenous chloramine compound produced by human phagocytes and its analogs, Aganocide compounds N,N-dichloro-2,2-dimethyltaurine (NVC-422), were reported to have broad spectrum antiviral activity (1, 2). This study was aimed to evaluate the in vitro virucidal activity of NCT, NVC-612 and NVC-422 against several influenza H1N1 strains.

**Materials & Methods**

Influenza A strains H1N1 (Singapore / Hong Kong 2339, 2000; H, Katlinger, Vienna), H1N1 (APR-8-38, MicroTest) and H1N1v (California, 2009: clinical isolate, Innsbruck) were grown on MDCK or Vero cells in RPMI 1640 (Fig. 1). Cell-free supernatants containing 10^6 to 10^9 plaque forming units (pfu/m) were incubated at room temperature in solutions of test substances at different concentrations and times. Aqueous stock solutions of the test substances (pH 7.4 in water or phosphate buffer without test substances for controls) were diluted ten-fold in the viral suspensions to the indicated end concentrations. After inactivation of the oxidants with sodium thiosulfate or controls (5 mM NCT and NVC-422 pH 7.4) the titer of strain Singapore by 2 log

**Results**

The three test substances inactivated all three influenza A strains, while taurine and dimethyltaurine did not reduce the viral titer. NCT and NVC-612 (0.1%) inactivated H1N1 Singapore to the detection limit after 5 min incubation time (reduction factor > 5 log), (Fig. 2A), while the H1N1v titer was reduced by approximately 2 log

**Conclusion**

- NCT, NVC-612, and NVC-422 all demonstrated virucidal activity against influenza A.
- NVC-422 achieved complete inactivation of H1N1 virus (Fig. 3).
- Interestingly, addition of ammonium chloride showed an accelerated time-kill for all three compounds, which is presumably due to the formation of the low molecular weight monochloramine, warranting further investigation.
- The in vitro data suggest that H1N1 (Singapore 2000) is slightly more susceptible than H1N1v (California 2009). Further investigation into potential consumer products and therapeutic use of these agents are warranted.

**References**
