In this study an antigen-capture electrochemiluminescent (ECL) assay was developed utilizing three murine anti-RABV G monoclonal antibodies (mAb) to quantify RABV G in two commercially available inactivated RABV vaccines, one experimental vaccine, and three purified RABV G preparations. The first mAb was specific for a conformational epitope so that only immunogenic, natively folded G was captured in the assay. Additionally, two mAbs that bind non-competing linear epitopes were employed to evaluate the overall quantity of native and denatured RABV G and for detection. Vaccine efficacy was also assessed in vivo using pre-exposure vaccination of mice followed by peripheral RABV infection. Purified G induced a virus neutralizing antibody (VNA) titer of 4.2 IU/ml and protected 100% of immunized mice; while, an experimental vaccine with low quality and quantity of G induced a VNA titer >0.03 IU/ml and only protected 21% of immunized mice. These preliminary results support the hypothesis that in vivo efficacy may be predicted from the in vitro measurement of RABV G using the ECL assay. Based upon these results, the ECL assay may have utility in measuring potency of RABV vaccines.

**ONRAB® EFFICACY IN SKUNKS (Mephitis mephitis) AND RACCOONS (Procyon lotor)**

Knowles MK1, Fehlner-Gardiner C1, Beresford A1, Rosatte R1 – 1Canadian Food Inspection Agency – Centre of Expertise for Rabies, Ottawa, Canada, 2Artemis Technologies Inc., Guelph, Canada, 3Ontario Ministry of Natural Resources – Wildlife Research and Development, Peterborough, Canada

ONRAB®, a recombinant human adenovirus type 5 vector expressing rabies glycoprotein, has been used under experimental permit in the Canadian provinces of Ontario, New Brunswick and Quebec for wildlife rabies oral vaccination programs. Prior to its use in the field, a series of trials were conducted in two terrestrial wildlife vectors to determine the rabies virus neutralizing antibody response to ONRAB®. Eighty-three % of skunks (10/12) and 75% of raccoons (8/12) seroconverted within 6 weeks after consumption of ONRAB® in an Ultralite bait (ULB) at a dose of 109.2 TCID50/ml in 1.8 mL. In the subsequent efficacy trial, all skunks (n=28) that consumed a single ONRAB®-ULB were protected from lethal rabies challenge, while 86% (12/14) of the unvaccinated controls succumbed to rabies. In addition, pre-existing neutralizing antibody to either canine adenovirus type 2 or human adenovirus type 5, achieved by intramuscular inoculation of skunks with the viruses 28 d prior to administration of ONRAB®, per os at 108.4 TCID50/ml, had no effect on the antibody response to ONRAB®. These series of experiments demonstrated that ONRAB®-ULB shows promise over previous vaccine/bait combinations as it elicited a measurable immunological response in both skunks and raccoons, and provided protection against experimental lethal raccoon virus exposure in skunks. Further, results of these studies suggest that its field performance is unlikely to be affected by pre-existing immunity to other adenoviruses.

**SKUNK RABIES IN TEXAS; A RETROSPECTIVE LOOK**

Abbott S1, Mesenbrink B1, Mapston M1, Bodenchuk M1, Cserti E2 – 1USDA-Wildlife Services, 2Texas Department of State Health Services

Skunk rabies in Texas, USA is ubiquitous, with the majority of the state within the range of the South-Central skunk rabies distribution. Statewide public health surveillance indicates a cyclic trend, with peaks in total skunk rabies cases approximately 22 years apart. We examined public health case-reports from 1960-2006 to identify trends, with the ultimate goal of developing a predictive model for skunk rabies epizootics. Cases were plotted by county, by year and certain trends were observed. Some counties regularly reported skunk rabies cases while many others reported no cases for several years. We also examined rainfall data from 4 representative counties to determine if there was a correlation between rainfall and skunk rabies cases. This paper presents the results of these investigations and presents opportunities for further investigations.