Clinical Trials of Virotecton – Summary

Virotecton was tested in three types of viral infections:

1. Canine parvoviral enteritis
2. Feline panleukopenia
3. Feline herpesvirus rhinotracheitis

1. Canine Parvoviral Enteritis

At the Budaörs Animal Shelter in 2013, a severe outbreak of parvoviral enteritis occurred among puppies. Within three months, 42 puppies fell ill. For the study, in addition to the characteristic clinical symptoms, the presence of the virus was confirmed by fecal rtPCR (CPV primer).
The base treatment followed the standard protocol (intravenous Salsol fluid therapy, antiemetic injection *Cerenia*, and anti-enteritis paste *Diarsanyl*).

The sick puppies (from the same litters) were divided into two groups in equal proportions:

- **Control group:** received only the standard treatment.
- **Test group:** received the standard treatment plus oral Virotecton capsules (5 mg/kg twice daily) for 7 days.

All animals were examined daily for 7 days (general condition, vital signs, hydration, presence of vomiting/diarrhea, etc.), recording recovery times and deaths.

- **Control group:** 9/21 puppies died (on average 2–3 days after onset). Survivors recovered in an average of 6 ±2 days.
- **Virotecton group:** No deaths. Average recovery time was 4 ±1 days.

Two weeks post-recovery, fecal rtPCR was performed:

- **Control survivors (12 total):** 4 still shed virus.
- **Virotecton group:** all were negative.

Conclusion: Virotecton significantly increased survival, shortened recovery time, and prevented long-term viral shedding, thereby reducing spread.

2. Feline Panleukopenia (FPLP)

At the same shelter in 2013, within 6 months, 20 kittens developed FPLP. Diagnosis was confirmed with fecal rtPCR (FPLPV primer). Cats showed acute gastroenteritis, aregenerative anemia, and granulocytopenia.

All 20 received standard symptomatic treatment (fluid therapy, antiemetics, anti-diarrheals, vitamin B12). Half of them also received oral Virotecton (5 mg/kg twice daily for 7 days).

- **Control group (10 kittens):** 2 died, 8 recovered in 8 ±2 days.
- **Virotecton group (10 kittens):** all survived, recovery in 6 ±1 days.

Two weeks after recovery, fecal virus detection was performed:

- **Control survivors:** 1 still shedding virus.
- **Virotecton group:** none shedding virus.

Conclusion: Virotecton significantly improved survival, shortened recovery, and tended to reduce long-term shedding (not statistically significant).

3. Feline Herpesvirus (FHV-1) Rhinotracheitis & Feline Calicivirus (FCV)
In 2013, kittens aged 6 weeks–6 months developed mass respiratory infections with typical signs (nasal discharge, conjunctivitis, blepharitis, laryngotracheitis, fever, anorexia, lethargy). Conjunctival samples were tested by rtPCR for *Chlamydiophila*, FHV-1, and FCV. Cats positive for FHV-1 or FCV were included (chlamydia or multiple infections excluded).

For both herpes and calicivirus infections, 20 animals were selected and divided:

- **Control group:** traditional therapy (amoxicillin + clavulanic acid injections, fluid therapy, meloxicam, vitamins).
- **Test group:** same therapy + Virotecton (5 mg/kg orally twice daily for 6 days).

Results:

- **FHV-1 cats:** In the control group, after 3 weeks, 6/10 still had respiratory/conjunctival symptoms. In the Virotecton group, 8/10 became completely symptom-free; 2 had only mild residual signs.
- **FCV cats:** In the control group, 1/10 died (pneumonia, stomatitis, tracheitis), 4/10 remained symptomatic. In the Virotecton group, all became symptom-free and were declared recovered.

Follow-up rtPCR at 3–6 weeks:

- **FHV-1 cats:** all remained PCR-positive regardless of treatment (explained by viral genome integration).
- **FCV cats:** all untreated remained positive; in the Virotecton group, 8/10 were PCR-negative, 2 still positive though symptom-free.

Conclusion:
In the two major feline respiratory viral diseases, Virotecton as an adjunct therapy significantly improved chances of recovery and symptom resolution, reducing the risk of chronic complications. For FHV-1, it cannot eliminate the virus due to genome integration; for FCV, virus clearance was incomplete but markedly reduced, lowering the risk of carrier animals.