

## Message from the President



Another long and challenging year is coming to a close. I'm sure you all believed, as I did, that COVID-19 would be a distant memory by now. However, the world continues to suffer and our hearts go out to those who have lost loved ones to this frightening virus.

The holiday season and calendar year-end offer us an opportunity to pause and reflect. Despite many external challenges, it gives me a warm feeling to know how many animals (cows, horses and

dogs) our immunotherapeutic products have helped this year.

I've personally spoken to dozens of pet guardians about our canine anticancer immunotherapy (Immunocidin). For many of these folks, by the time they've reached me, their precious pet's condition has deteriorated and they are desperate for a possible solution. This leads to a discussion with their veterinarian about whether our product might be helpful. We must then determine the right treatment approach, a consultative process involving the veterinarian, pet guardian(s) and our technical veterinary team.

It's so heartening to hear feedback about dogs treated with Immunocidin whose lives have been extended as a result of the treatment. You'll see some examples in this issue of our newsletter.

In horses, we've heard that the use of Settle<sup>®</sup> in cases of known or suspected uterine infection, as well as post-foaling, quickly cleans up the uterus and primes the mare for more effective breeding.

In cattle, we've heard that Amplimune<sup>®</sup> "definitely works" to treat calf diarrhea and respiratory disease and those who use it say they see a favourable response (without antibiotics).

I wish to close by thanking all of our shareholders, customers, suppliers, partners, directors and employees for your loyalty and belief in our technology and service offerings.

We look forward to continuing to work with you in 2022 for our mutual success. Best of the holiday season to you and your families.

## Canine Cancer Survivors



Received from a pet guardian on 12.06.21:

Our 9-year-old Shepherd-Husky named Bear was diagnosed in September, 2020 with osteosarcoma in his left front leg. The vet hospital recommended amputation the next day and we could not bring ourselves to do this to our beautiful boy. After obtaining a 2nd opinion which ultimately confirmed the diagnosis, we continued our search for an alternative. During a visit with a canine cancer vet in Greenville, SC in January 2021, we established contact with Miriam at NovaVive. Working with Miriam and our vet, we got Bear into the

*Immunocidin<sup>®</sup> is approved by regulators in the USA and Canada for the treatment of canine mammary cancer. Some veterinarians are using the product experimentally on other types of canine cancer.*

*immunocidin protocol. The tumor site began and continued to decrease in size to where now it appears as a dimple. There has been no detectable metastases; that is, his latest x-rays show him to be clear. To see and watch him today, you would never know what he has been through over the past year. While it took him 24 to 48 hours to recover from sedation for his IV treatments, he has generally done very well. We have been very pleased with the results. Last year, we did not know how much longer we would*



*Bear S., 42-week survivor*

*have him. Today, he chases squirrels and keeps his watchful eye on us.*

See additional canine survivor stories on the next page.

**Imm-you-know-sigh-din**

# Settle<sup>®</sup> Equine Endometritis Therapy Research

Settle<sup>®</sup> is our regulator-approved immunotherapy for the treatment of equine endometritis. It is approved and available to equine veterinarians in the USA, Australia, New Zealand and the UAE. This product is backed by an extensive portfolio of research data. Here are the important studies conducted to prove its efficacy and safety in the broodmare. Settle has been scientifically proven to:

- ◆ **Decrease pro-inflammatory cytokine production (IL-1 $\beta$ )**
- ◆ **Increase anti-inflammatory cytokine production (IL-10)**
- ◆ **Decrease fluid retention**
- ◆ **Decrease polymorphonuclear neutrophil (PMN) infiltration**
- ◆ **Decrease bacterial infiltration**

Pertinent studies/publications/presentations include:

*The Effect of Mycobacterium Cell Wall Fraction on Histologic, Immunologic, and Clinical Parameters of Postpartum Involution in the Mare.* Journal of Equine Veterinary Science 90, 10313 (2020).

*The effect of treatment with immune modulators on endometrial cytokine expression in mares susceptible to persistent breeding-induced endometritis.* Equine Veterinary Journal, ISSN 0425-1644 (2014).

*Effect of immunomodulatory therapy on the endometrial inflammatory response to induced infectious endometritis in susceptible mares.* Theriogenology 78, 991-1004 (2012).

*Effect on pro-inflammatory cytokines IL-1 $\beta$ , IL-6 and TNF- $\alpha$ , mRNA transcription studied by Real Time PCR.* Proc. The Society for Theriogenology, Colorado Springs, CO. August 7-11: 41 (2002).



*Non-specific immunomodulation at postpartum improves uterine condition and fertility in mares.* Proc. 8<sup>th</sup> World Equine Veterinary Association, Buenos Aires, Argentina, October 15-17: 80 (2003)

*Endometrial IL-1 $\beta$ , IL-6 and TNF- $\alpha$ , mRNA expression in mares resistant or susceptible to post-breeding endometritis: Effects of estrous cycle, artificial insemination.* Elsevier, Vet. Imm. and Immunopath. 96(2): 31-41 (2003)

## More Immunocidin-Treated Canine Cancer Survivors

Bear B. is an 11-year-old mutt/pit bull mix in California who was diagnosed with Osteosarcoma in his hind limb. He has been receiving Immunocidin therapy for more than 43 weeks. Here's what Bear's guardian had to say:

*I am so grateful that I found Immunocidin!*

*We started out with no options. I was told to take Bear home keep him comfortable and say my goodbyes.*

*Bear is now 10+ months post-diagnosis and 8+ months post amputation and living his best life!*



*Multiple vets told me that Bear was not a good candidate for amputation because of his age (10 yrs.) weight (82 lbs.) and the condition of his joints (arthritis and*

*previous knee injuries) and that without amputation chemo was basically pointless. After a week down the research rabbit hole I found NovaVive and Bear started Immunocidin 9 days after his diagnosis.*

*We successfully managed his pain for two months before it became unbearable and we had to decide between amputation or euthanasia and I just knew he wasn't done fighting so we amputated and he is doing better as a "tripawd" than I ever could have expected! My only regret is not amputating sooner!*



Gia, 39-week survivor



Thor, 42-week survivor



Scarlet, 42-week survivor

