



PharmAust
L I M I T E D

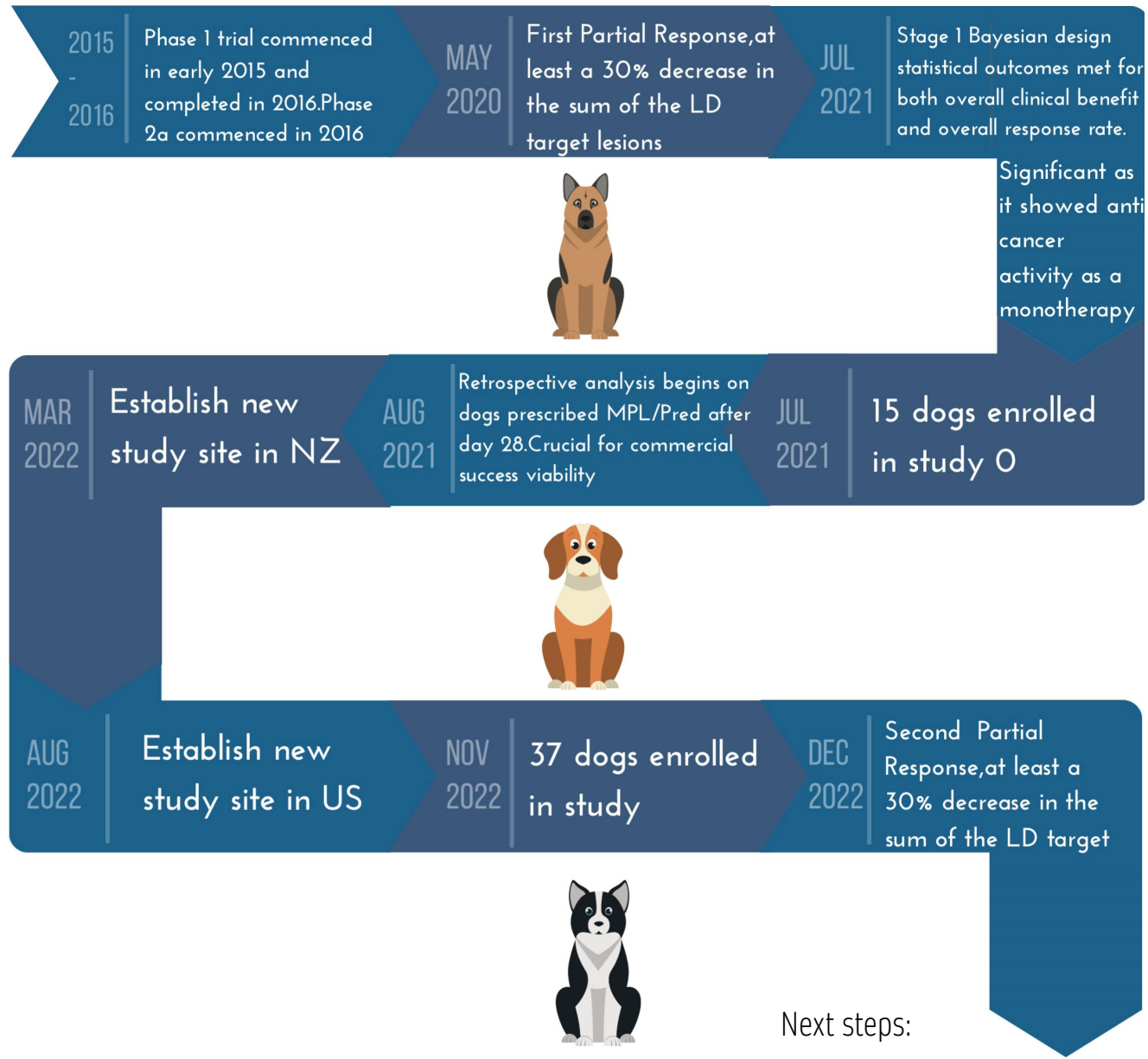
CANINE TRIAL UPDATE

20TH DEC 2022

ASX: PAA

ACN 094 006 023





Next steps:

- Completion of Phase 2b trial
- Licensing deal with Big Pharma
- Commencement of Phase 3 trial



STATUS OF CURRENT TRIAL

Veterinary trial centres have been set up in Australia, New Zealand and the United States to evaluate the anti-cancer benefit of MPL in dogs newly diagnosed with B-cell lymphoma and have not received any previous cancer treatment.

- PharmAust is recruiting pet dogs with untreated B cell lymphoma to finalise the Phase 2 evaluation of the drug MPL, which has demonstrated effective anti-cancer activity and minimal side effects.
- Thirty three dogs have been treated using MPL monotherapy (excluding the 4 dogs removed from the study) . With continued positive outcomes, PharmAust is preparing for a successful Phase 2 completion and the commencement of a subsequent Phase 3 registration trial.
- Two dogs have had a partial response (latest dog confirmed yesterday) as assessed by the administering veterinarians. Partial response is a decrease in tumour size (sum of longest diameter as defined by RECIST criteria) of >30%, no new lesions
- Side effects were minimal or not detected. In comparison, the most common side effects of a dog being treated with chemotherapy include gastrointestinal effects (vomiting, diarrhea or loss of appetite) and decreases in blood cell counts. Also, during chemotherapy, owners need to take precautions when handling their pets and their waste. Drugs may be excreted in the urine and faeces, so it is not advisable for children to play with their pets for the duration of therapy.
- PharmAust requires greater than or equal to 18 dogs with an overall clinical benefit out of 46 dogs to meet its statistical endpoint.



SHORT TERM PRIORITIES



Expand the opportunities for collaboration for Phase 3 investment

Utilize in depth market and competitor research to build greater understanding of the potential new market segment that Monepantel use in B Cell lymphoma can deliver for pets/owners and veterinarians

Continue with the enrolment of dogs into the current Phase 2b study

- New enrolment in the US study site: 009-002, 8 yr Male Neuter Terrier mix;
- New enrolment in Brisbane – 005-008, 6 yr Male Neuter Staffy X

PET DOG PHASE 2 TRIAL: TREATMENT NAÏVE B CELL LYMPHOMA

CURRENT STATUS OF ENTIRE STUDY ENROLLED DOGS

(DAY 28 EVALUATION)

| Study metric | # Dogs | Definition of data |
|--|-----------|--|
| # Dogs fully completed study | 24 | Fully completed - All study assessments complete, final grading confirmed PLUS blood testing for Monepantel completed. Monepantel levels are in optimum range |
| # Dogs partially completed study | 4 | Partially completed – All study assessments complete, final grading confirmed. Blood testing for Monepantel NOT completed |
| # Dogs fully completed study - suboptimal blood levels | 5 | All study assessments are complete, Final grading confirmed PLUS blood testing for Monepantel completed. Monepantel levels in sub-optimum range |
| # Dogs withdrawn from study | 4 | Dogs withdrawn from the study due to lack of compliance with study protocol (usually due to dosing dogs incorrectly or given therapy not allowed in protocol) |
| Total # dogs enrolled to date | 37 | |

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REQUIRE 8 OF A FURTHER 18 DOGS WITH SD AT D28 TO MEET BAYESIAN OUTCOMES FOR SUCCESSFUL PHASE 2 TRIAL

PET DOG PHASE 2 TRIAL: TREATMENT NAÏVE B CELL LYMPHOMA

RECIST OUTCOME FOR MONEPANTEL ALONE

(24 COMPLETED DOGS)

| Total # dogs fully completed to date | #Dogs SD Target nodes | # Dogs SD VCOG RECIST* |
|--------------------------------------|-----------------------|------------------------|
| 24 | 17 | 10 |

REQUIRE 8 OF A FURTHER 18 DOGS WITH SD AT D28 TO MEET BAYESIAN OUTCOMES FOR SUCCESSFUL PHASE 2 TRIAL

*Dog - 002-005 – Partial response (PR) RECIST

*Dog – 003-001 – Partial response (PR) RECIST

**PR = a decrease in tumour size (sum of longest diameter as defined by RECIST criteria) of >30%, no new lesions



MPL trial participant

PET DOG PHASE 2 TRIAL: TREATMENT NAÏVE B CELL LYMPHOMA EVALUATION DAY 28 VCOG RECIST VS OST (OVERALL SURVIVAL TIME)

DAY 28 – VCOG RECIST (SD)

| Study # | # Days (Monepantel monotherapy) | #Days (OST- Overall Survival Time) | Day 28 VCOG RECIST |
|---------|------------------------------------|---------------------------------------|-----------------------|
| 002-002 | 28 | 177 | SD |
| 004-006 | 106 | 144 | SD |
| 004-005 | 42 | 77 | SD |
| 002-004 | 63 | 191 | SD |
| 005-005 | 71 | 182 | SD |
| 008-001 | 30 | 38 | SD |

DAY 28 – VCOG RECIST (PD)

| Study # | # Days (Monepantel monotherapy) | #Days (OST- Overall Survival Time) | Day 28 VCOG RECIST |
|---------|------------------------------------|---------------------------------------|-----------------------|
| 005-002 | 43 | 150 | PD |
| 007-002 | 28 | 191 | PD |
| 005-006 | 32 | 157 | PD |
| 008-002 | 14 | 28 | PD |
| 005-007 | 32 | >168 | PD |



MPL trial participant

CANINE TREATMENT NAÏVE B CELL LYMPHOMA SUMMARY POINTS

- In dogs treated with Monepantel/Prednisone as ongoing therapy after Monepantel alone, PD outcomes at D28 do NOT appear to be associated with poorer clinical outcomes and/or shorter (OST - Overall survival times) over the life of the dog
- No matter the treatment protocol, most dogs with Lymphoma will die from Lymphoma
- Stabilisation (as opposed to regression) of lymphoma with good Quality of Life (QoL) is an excellent outcome



MPL trial participant

PET DOG PHASE 2B TRIAL HYPOTHESIS: TREATMENT NAÏVE B CELL LYMPHOMA

The continuation of the Phase 2b prospective study will do two things:

- Continue to add data towards achieving the outcomes of the Bayesian design requirements of 18 SD outcomes out of 46 dogs with therapeutic plasma levels of monepantel
- Provide more dogs that can be considered for inclusion into an MPL/Prednisolone therapeutic program
 - If selected, this program is started post study and will be retrospectively assessed



MPL trial participant

PET DOG PHASE 2B TRIAL HYPOTHESIS: TREATMENT NAÏVE B CELL LYMPHOMA

PROPOSED:

The continuation of the MPL/Prednisone program will allow more in-depth analysis of:

- Disease and Animal Factors potentially impacting OST outcomes
- QoL experienced by dogs during treatment
- The impacts of differing dose regimens of MPL/Prednisone on both OST and QoL outcomes



MPL trial participant

PET DOG PHASE 3 TRIAL HYPOTHESIS: TREATMENT NAÏVE B CELL LYMPHOMA

- Preliminary efficacy demonstrating anticancer activity in current Bayesian designed Phase 2 clinical trial
 - On track for successful Phase 2 completion
 - Optimum plasma drug levels very close to being finalised
- Median OST ~ 153 days in combination with prednisolone = 2.5 -3.0 fold extension c.f. prednisolone alone
- Sufficient data to plan Phase 3 registration trial: +pred/ +doxorubicin warranted

- Very safe drug
- Independent manufacturing capabilities
- High quality of life, minimal side effects
- Pet Owner testimonials on PharmAust website:

<https://www.pharmaust.com/veterinary-trial-testimonials/>



MPL trial participant

WILL MONEPANTEL ALLOW GP VETS TO GROW A NEW CANINE ONCOLOGY MARKET SEGMENT?

| Therapy | Median OST (days) | Cost (USD) | Side effects | Vet Responsible |
|------------|-------------------|--------------|--|-----------------|
| None | 40 days | 0 | Reducing QoL | GP |
| Prednisone | 58 | 100 | PU/PD, Soiling in house, increased appetite | GP/Oncologist |
| CHOP | 300-360 | 8,000-12,000 | GI disturbance, no contact with family members for a period, reduced appetite, fatigue | Oncologist |

| Therapy | Median OST (days) | Cost (USD) | Side effects | Vet Responsible |
|---------------------------|-------------------|------------|--|----------------------|
| Monepantel/ Prednisone | 153 | TBC | Owner surveys from 8 dogs indicate excellent QoL score feedback. Usual Prednisone side effects have not been reported (Requires larger dataset to confirm) | GP and/or oncologist |

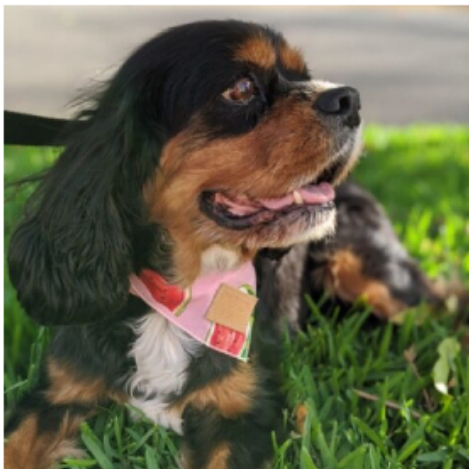
HOW DOES MONEPANTEL/PREDNISONE COMPARE TO NON-CHOP CANINE LYMPHOMA THERAPEUTIC OPTIONS?

| Product Trade name | Active | Therapeutic target | Dosing | Survival metrics | Treatment side effects | User safety cautions | Commercial deal |
|--------------------|---------------------------|--------------------|--------------------|------------------------|---|---|---|
| Laverdia* | verdinexor | Canine lymphoma | Orally (2-3x/week) | Median TTP (29.5 days) | Anorexia, weight loss, GI upset, lethargy, elevated liver enzymes | No contact with pet body fluids for 3 days post treatment | Global licence for Laverdia *Total deal: \$ US 64.5M Upfront: \$US 19 M |
| Tanovea** | rabacfosidine | Canine lymphoma | IV (every 3 weeks) | Median PFS 134 days | Vomiting, diarrhoea, weight loss, anorexia, dermatopathy Grade 4 - neutropaenia | No contact with pet body fluids for 5 days post treatment | Development and commercialization agreement (Elanco /Vet DC) Value undisclosed |
| TBD | Monepantel/ Prednisone | Canine lymphoma | Oral (daily) | Median OST 150 days | Occasional Grade 1 weight loss and elevated liver enzymes | Keep out of reach of children. | |

* Laverdia FOI, [Dechra Pharmaceuticals PLC acquired Worldwide Rights to Verdinexor from Anivive Lifesciences, Inc. for \\$64.5 million. | MarketScreener](#)

** Tanovea leaflet

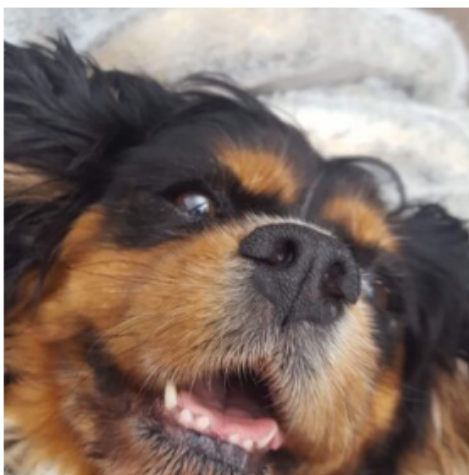
TESTIMONIALS



Ruby is our 12-year-old, black and tan Cavalier King Charles Spaniel. She is just the sweetest, gentle girl. We got Ruby as a mate for our other Cavalier, Lily. They were inseparable, bringing us so much joy and laughter. Besides loving food and sneaking off to steal some of our cat's dinner, Ruby just spends her time loving on everyone and snuggling up to me.

Ruby was diagnosed with B-cell lymphoma in June 2022 by our local vet at Chelmer Graceville Vets after my daughter Ella found lumps under Ruby's jaw. She had no other symptoms. This diagnosis was confirmed by Dr Kathleen O'Connell at Animal Referral Hospital (ARH) in Brisbane.

After our consultation and investigation with ARH, I was given two pages of possible treatments. Dr O'Connell discussed the possibility of the Monepantel (MPL) trial over the phone as I was home sick with Covid. I did some research about MPL and found Ryley and Chica's testimonials which made me feel more comfortable about the trial.



I decided to do the trial as I felt that with her age, pancreatitis issues and thyroid issues, chemotherapy would be too much for Ruby. The Monepantel trial would allow us to have longer with her and with good quality of life, which was very important to me.

So far, our experience on the trial has been very positive. We have been delighted to get an extra four months with Ruby. She still enjoys doing much of what she previously did, albeit a little slower, but she has no health issues since being on the trial and the team at ARH have been wonderful.

Each month that we pop in for her check-up we can't believe that another month has passed, and we still get to have her in our lives. I try and tell everyone about this trial because I think it is so valuable and is another option that is more cost effective for the average person.

Carrie, Brisbane

TESTIMONIALS



Chica was a Black Kelpie born on a farming property in WA. She was a very active and very smart little dog with an incredible capacity to respond to your mood.

We got Chica when we were living in rural WA having returned from 5 years living in Peru where we had to leave our family dog. She was named Chica as it means little girl in Spanish.

We went to a farmer's market and our daughter's friend had a litter of puppies for sale. Chica was being pushed around in a pram with a baby's bonnet on. We bought her for \$25 and the farmer threw in a couple of bales of hay. He regretted that decision later when she turned out to be a very good herding dog.

Chica's favourite thing to do was to be by your feet in the paddock "helping" with whatever we were doing! She was diagnosed with lymphoma in April 2021 when I took her for a check-up as she had a small lump on her face and had been a little under the weather.

When she was diagnosed, we began looking for alternatives to chemotherapy. My vet had heard about the Monepantel trial and researched it for me before referring us to the Animal Referral Hospital in Brisbane, which was participating in the trial.

The trial was very straight-forward, clearly explained and did not require much from us in terms of input or reporting; just a simple diary and to give the medication (tablet) every second day.

Unfortunately, we had to have Chica put to sleep on October 10th. Until the last week she was almost completely normal, with occasional periods of quieter behaviour than usual.

She was originally given 2 - 4 weeks to live and went on to have a great quality of life for nearly six months, so we are very grateful.

My advice to other pet owners is early detection and knowing what is and isn't normal for your dog is important. Diagnosing the lymphoma early gave us time to do something about it to slow it down.

The trial gave us an alternative to chemo (which wasn't an option for us), slowed the progression and gave us more time with Chica. We would really like to support the trial to continue as I really think it gave us a significant increase in time and quality of life for Chica. I'd love to see others have the same opportunity without the invasive treatment of chemo.

Gemma, Brisbane



THANK YOU

ENQUIRIES:

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