



PharmAust
L I M I T E D

ASX: PAA

ACN 094 006 023

Investor Presentation

January 2016

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Corporate Overview

- Proprietary Technology pipeline of clinical-stage oncology drugs – **focus on drug repurposing - new class of targeted therapy**
- Lead product PPL-1 (**Monepantel-MPL**) successfully completed Phase I/II – now Phase II ready **“New Class of Broad Spectrum Targeted Anti-Cancer Drug”**
- **Option with Novartis Animal Health** for veterinary cancer applications
- **Parallel development track** with both human and veterinary applications
- **Joint patents with large Japanese chemical/pharma** – Nihon Nohyaku
- Pipeline products **Mucin and Albendazole** will be developed with partners
- Epichem - **profitable business, forecast to achieve sales of AU\$2.6M (US \$1.8) in 2016**

Financial Snapshot

ASX Code	PAA
ACN	094 006 023
Total Shares on Issue	92,503,645
Unlisted Options on Issue	675,000
Market Cap	US\$7.4M
Cash (mrq)	US\$1.25M
Debt (mrq) ¹	US\$500,000
Sales (ttm)	US\$1.8M (AU\$2.6M)

Data as of January 11, 2016

¹ EFIC loan to Epichem

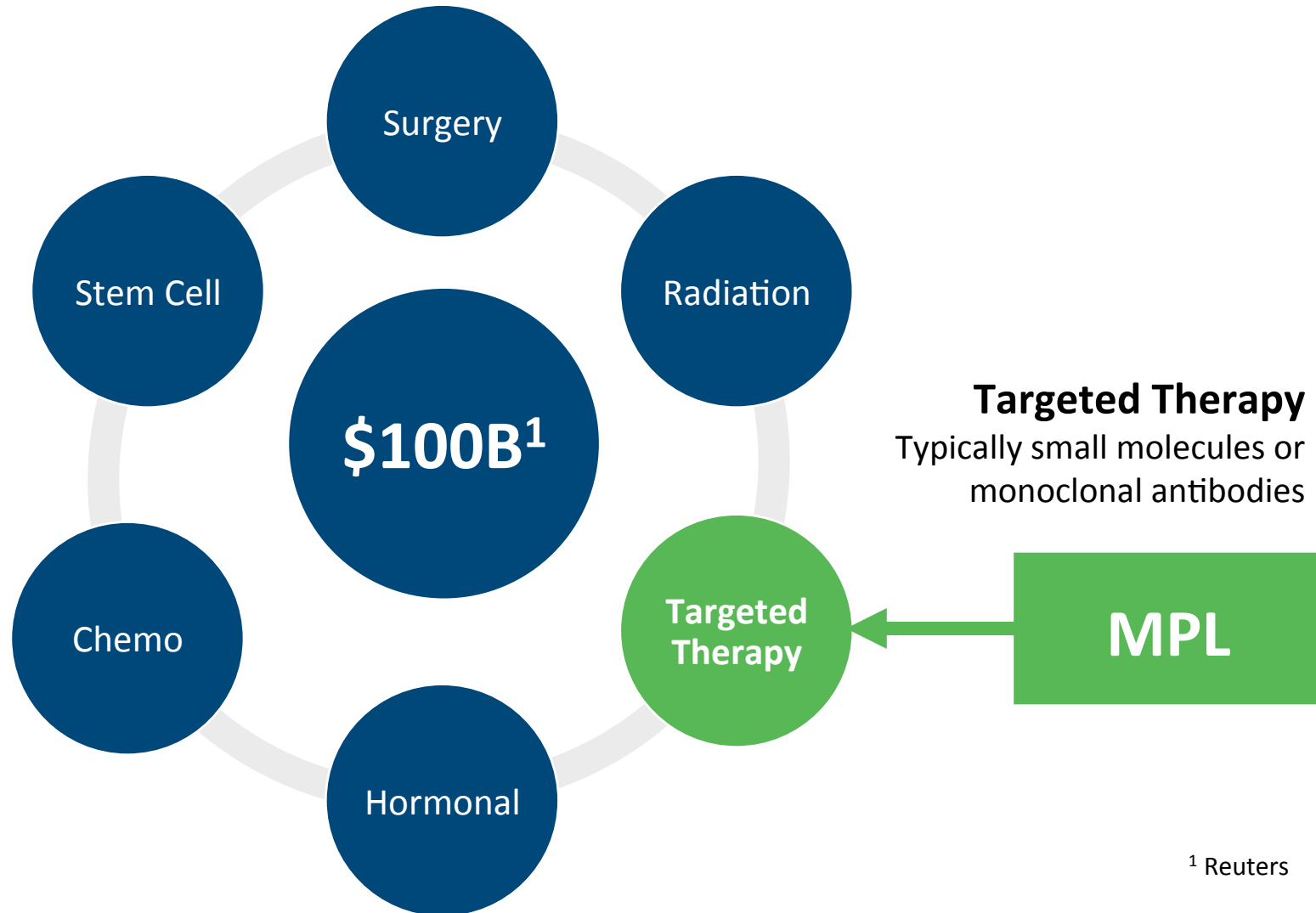
Investment Highlights

- Significantly undervalued – substantial investor upside
- MPL proven to be active in Phase I trial
- Epichem Business enjoying growing revenues – forecast \$10M by 2020
- Potential for multi-billion dollar assets
- MPL already approved for veterinary application (Novartis Animal Health)
- Very tight capital structure - US\$7.4M market cap
- Low enterprise value and significant leverage to success
- Proven management

Multiple Key Performance Drivers in 2016



MPL is a New Targeted Therapy within the \$100B Cancer Treatment Market¹



MPL Achieved All Key Phase I Endpoints

1. **Safety** – Excellent safety profile as predicted from pre-clinical models
2. **Active dose** – Identified dosage of MPL from effects on cancer markers in man
3. **Efficacy** – Determined efficacy by markers and effects on tumours (p70s6K and p4E-BP-1)
4. **Synergy** – Demonstrated synergy with many cytotoxic drugs currently in use
5. **Cost** – Showed optimal use of funds

Strong Confidence in Phase II Performance of MPL

- Substantial pre-clinical package in cancer models
- Substantial pre-clinical package as MPL on market with global major (Novartis Animal Health)
- Activity in naturally occurring canine cancers
- Activity in a range of human cancers (Royal Adelaide Hospital) – **broad spectrum potential**
- Synergy with existing standards of care
- mTOR - Mechanism now a **major target** for industry
- Other mTOR inhibitors generating **billion dollar sales**

MPL Active in Phase I Trial in Patients Who Fail Other Available Treatments

Implications for MPL

- As a new class of cancer drug with a novel mechanism of action it provides the opportunity to be effective where “Standard of Care” has failed
- Preclinical studies show reversal of drug resistance and synergy with chemotherapy, thus potential for combination therapy
- Novel mechanism of action (mTOR – autophagy) potentially circumvents resistance points of known drugs
- The very low toxicity of MPL avoids the dosing-limitations and toxicities of many approved anticancer drugs

MPL Already **Approved** for Veterinary Applications

- Novartis Animal Health registered Zolvix (MPL) for the treatment of parasitic diseases in animals
- Extensive manufacturing and toxicology already established by global major pharma company
- Over 80 MPL analogues are available for development and accessible to PharmAust
- PharmAust holds patents on the use of MPL and other amino-acetonitriles (AADs) in cancer
- Epichem has synthesized further novel compounds

Elevated p70s6k is Associated with Poor Outcomes in Cancer

- Patients who have a poor response to chemotherapy have high p70s6k levels
- p70s6k has been implicated to promote malignant transformation of cancers
- **Rapamycin-sensitive** p70s6k pathway is a potential novel target for therapeutic intervention in small cell lung cancer
- Overexpression of p70S6K in breast cancer patients is associated with aggressive disease and poor prognosis
- Patients with breast cancer with increased p70s6k phosphorylation have poor survival and increased metastasis

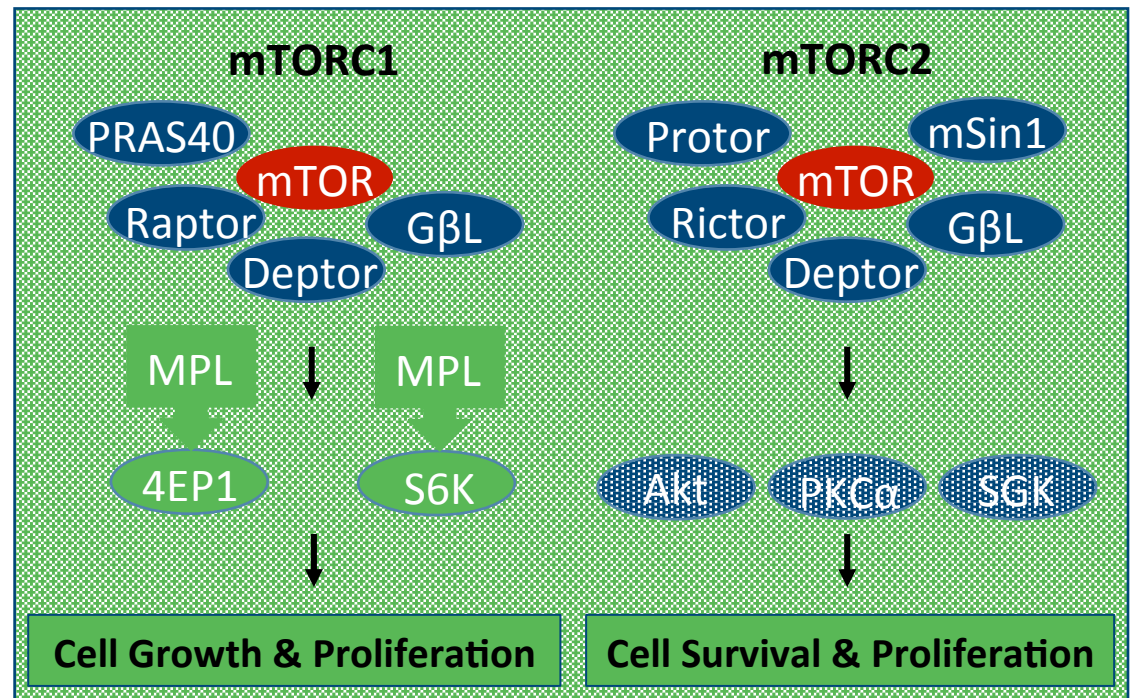
Rapamycin-based Rapamune (Pfizer) & Afinitor (Novartis) both inhibit p70s6K and interfere with mTOR, generating billions in sales

High s6k Correlates with Multiple Negative Outcomes

High s6k (p70s6k) in patients correlates with:

- ❖ Resistance to therapy
- ❖ Aggressive disease
- ❖ Poor prognosis
- ❖ High metastasis

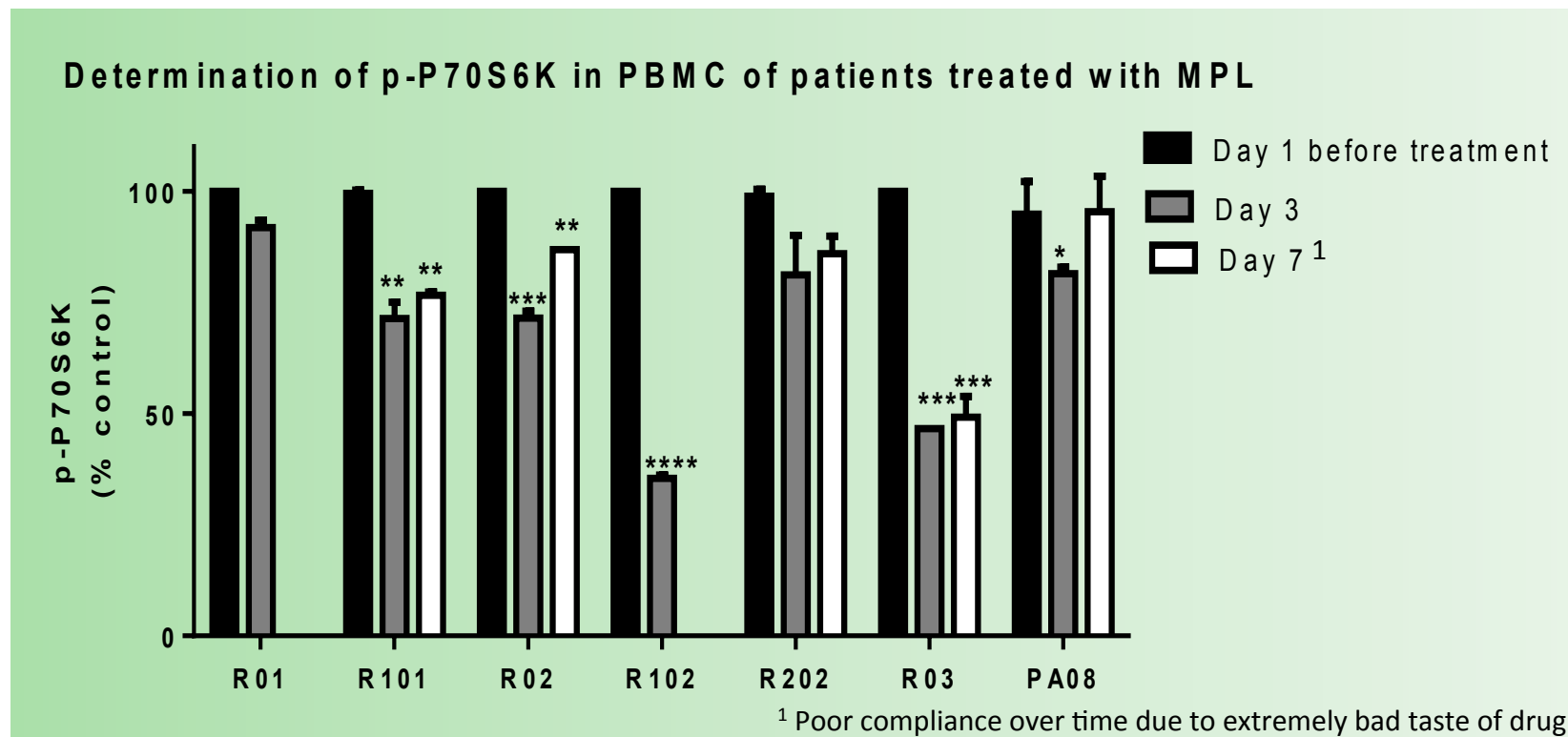
Two complexes of mTOR
(mammalian target of rapamycin)



mTOR pathway depiction by:

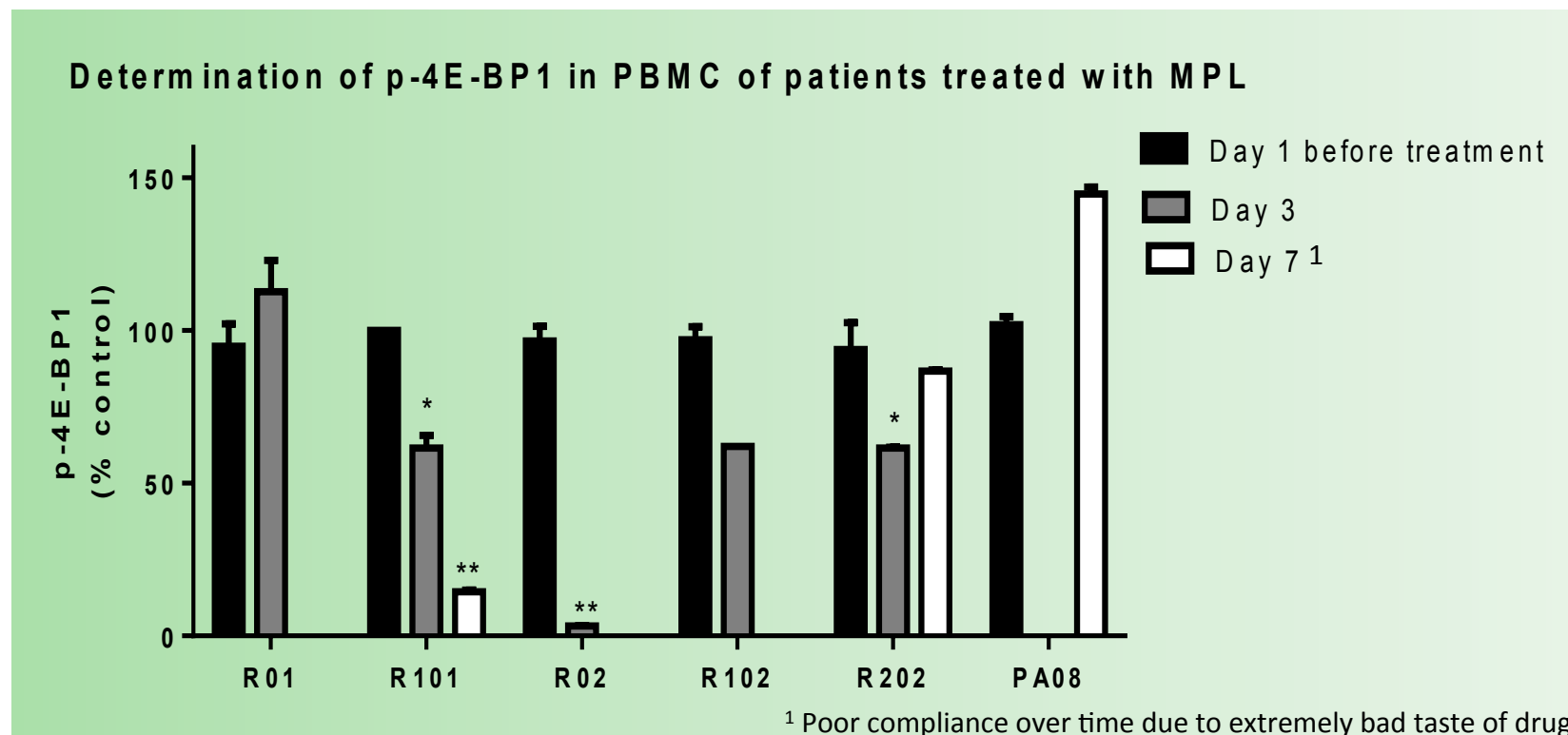
Marc Dufour, Anne Dormond-Meuwly, Nicolas Demartines and Olivier Dormond
Cancers **2011**, 3, 2478-2500; doi:10.3390/cancers3022478

Suppression of p70s6k by MPL in Humans



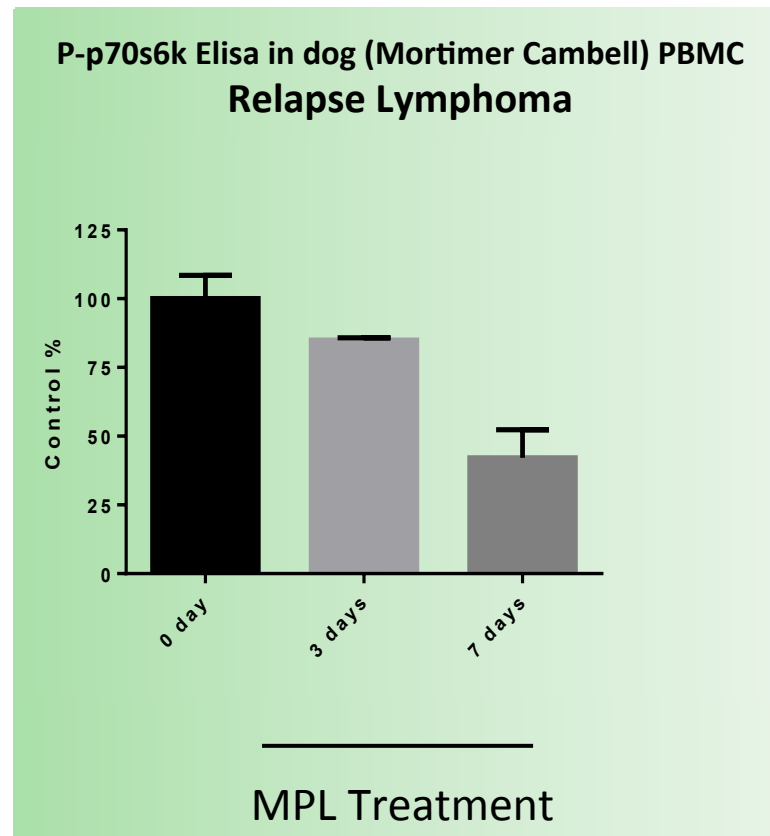
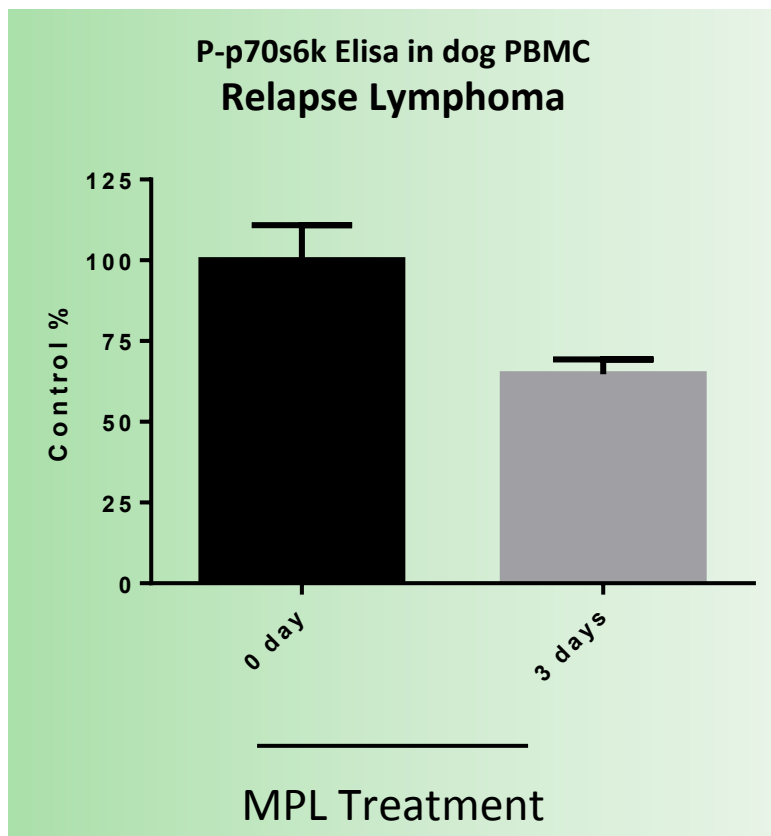
COMPARISON	SIGNIFICANT	p-VALUE
Day 1 vs. Day 3	Yes	*** 0.0004
Day 1 vs. Day 7	Yes	** 0.0020

Suppression of p-4E-BP1 by MPL in Humans

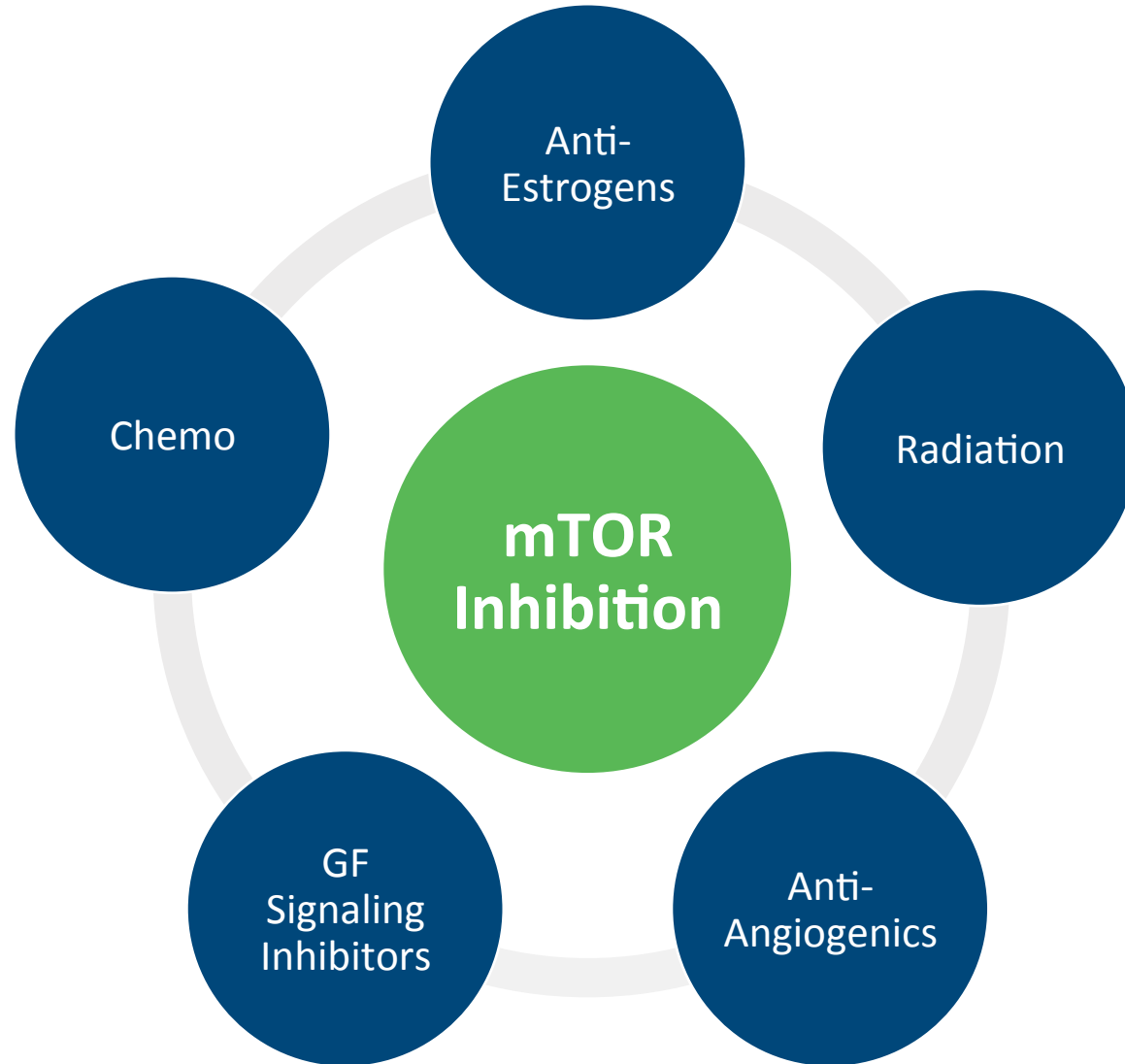


COMPARISON	SIGNIFICANT		p-VALUE
Day 1 vs. Day 3	Yes	*	0.0440
Day 1 vs. Day 7	No	ns	0.6086

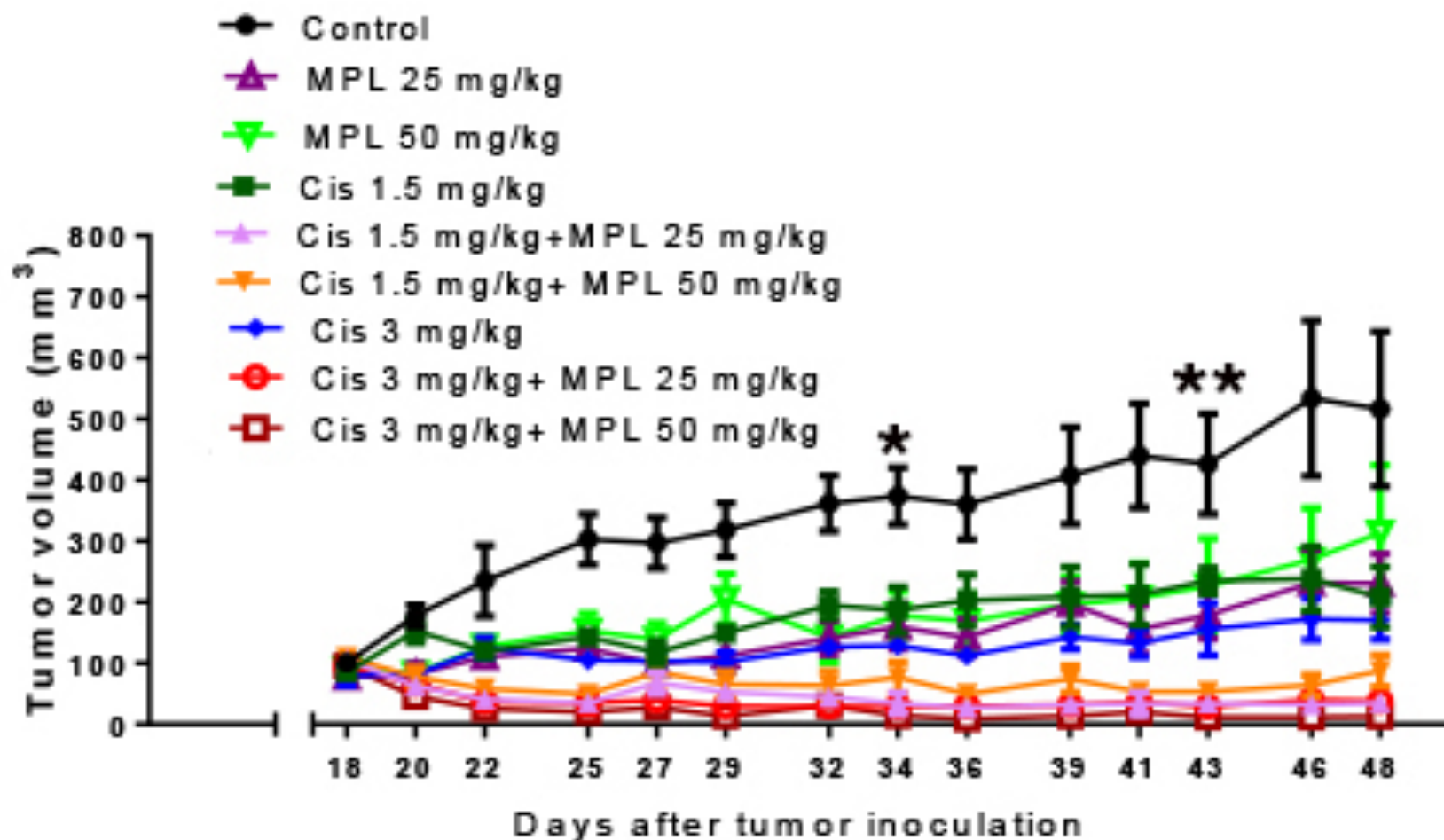
Suppression of p70s6k by MPL in Canines



mTOR Inhibition May Enhance Antitumor Effects of Other Therapies



Synergy Between MPL & Cytotoxic Drugs¹ Provides Potential for Combination Therapy



¹ Synergy demonstrated on ovarian cancer grown in xenograft-mice

Commercialization of MPL

Option on veterinary
cancer applications

**Novartis
Animal
Health**

Joint patent with
Japanese major

**Nihon
Nohyaku**

(strong IP position)

PharmAust

Experienced Management

Dr. Roger Aston, Executive Chairman

Previously at Wellcome Research Laboratories, Peptech, Cambridge Antibody Technology, QinetiQ, pSivida, Clinuvel, HalcyGen and Ascent Pharma Health. More recently CEO of Mayne Pharma Group.

Robert Bishop, Executive Director

30 years' experience in corporate finance and equity.

Dr. Wayne Best, Director

Nearly 30 years' experience in synthetic and medicinal chemistry both in academia, government and industry.

Sam Wright, Director & Company Secretary

Over 15 years' experience in the pharmaceutical, biotech and healthcare industry.



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