

# Annual General Meeting

Medical Therapies Limited  
24 November 2008

# Agenda today

- ◎ The Company
- ◎ Midkine, a novel target
- ◎ Product development program
- ◎ Clinical program
- ◎ Pipeline
- ◎ Diagnostic portfolio
- ◎ People
- ◎ Key value inflection points

# Medical Therapies (ASX:MTY)

## ◎ Board

- Dr David King (Chairman)
- Mr Koichiro Koike (Non-Executive Director)
- Ms Maria Halasz (Executive Director)

## ◎ Owns the largest IP portfolio around Midkine globally

## ◎ World class advisory board

- Emeritus Professor Takashi Muramatsu
- Professor Kenji Kadomatsu
- Dr. Sadatoshi Sakuma

## ◎ Capital structure

- 124M shares
- 6.9M convertible notes
- 7.5M executive options

# Creating value from ...

## ◎ **Largest Midkine asset portfolio globally**

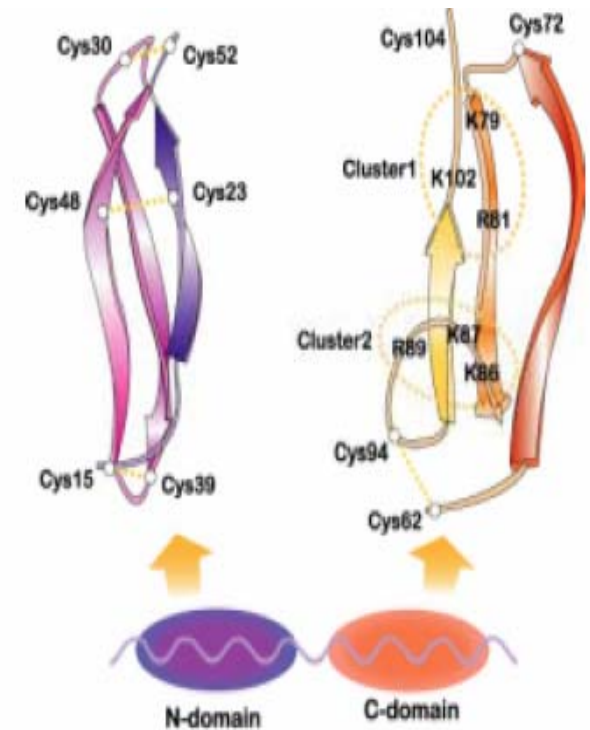
- 26 of 51 patent families owned by MTY
- Patents cover Midkine and Midkine antagonists and their use for the treatment of cancer, inflammatory and autoimmune diseases
- 133+ anti-midkine antibodies (distinct diagnostic and therapeutic)
- Anti-midkine antisense and siRNA data in cancer and inflammatory diseases

## ◎ **Multiple partnership opportunities**






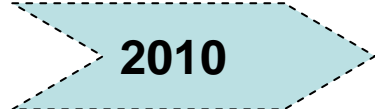
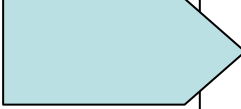


- Extensive data on midkine to take heart attack and stroke therapy into the clinic in 2009 / 2010
- Significant anti-midkine assets targeting early partnership opportunities during 2009
- Diagnostic/prognostic assets will be partner ready by the end of 2009

# Midkine, a novel target

- ⦿ Novel target for new therapies and diagnostics against cancer, inflammation and autoimmune diseases
- ⦿ Small protein (13kD, 121 AA's) with two domains. Heparin binding growth factor prominent in embryogenesis but largely undetectable in adults
- ⦿ Acts by:
  - reducing apoptosis (cell death),
  - facilitating cell migration,
  - modulating angiogenesis
  - promoting cell growth
- ⦿ Has an important role in cancer progression, onset of inflammatory diseases and preservation and repair of injured tissue



# Product Pipeline

Program (2Y budget estimate)	Preclinical Small animal    large animal	Phase I	Phase IIa
AMI (\$4.5M)			
Brain Ischemia (\$1.2M)	 		
RA (\$400K)			
MS (\$550K)			
Rectal carcinoma (\$400k)			
Diagnostics (\$250K)	Clinical validation using ELISA		

# Clinical Program

## Acute Myocardial Infarct

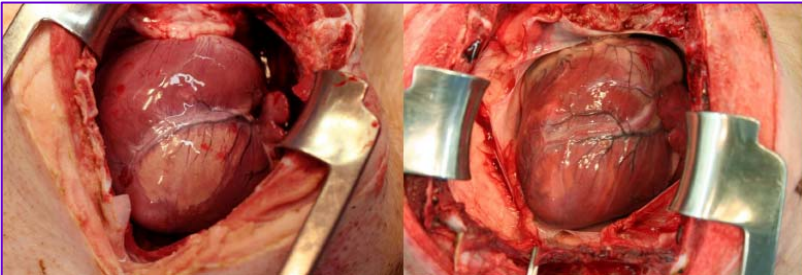
- ◎ Heart disease is the leading cause of death worldwide
- ◎ 3.8 million men and 3.4 million women die from the disease each year
- ◎ Cell death (apoptosis) is a major cause of mortality and increases the risk of heart failure
- ◎ Midkine has been demonstrated to have strong anti-apoptotic activity
- ◎ Recent clinical success by KAI Pharmaceuticals confirmed importance of preventing apoptosis of heart muscle cells as key to recovery

# Clinical Program

## Acute Myocardial Infarct

### Midkine therapy for Acute Myocardial Infarction (AMI)

#### Pig model



Control

Midkine treated

Mortality rate after 24 hours:

- Control: 4/12 (33.3%)
- MK-treated: 1/9 (11.1%)

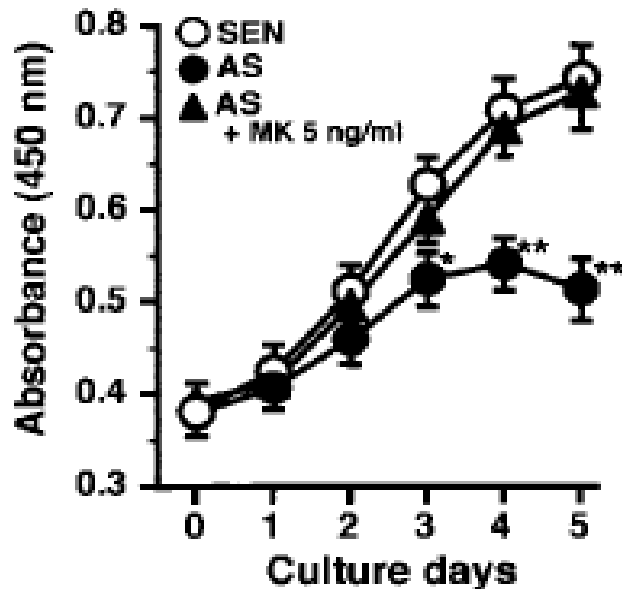
- Pig model of AMI - balloon was placed distal to the first diagonal artery for 45 minutes
- Following ischemia and reperfusion 5 microgram per kilogram midkine was injected directly into the ischemic area over 10 minutes
- Single dose Midkine reduced mortality to one third
- Pre-clinical study is planned for repeat dose in the same pig model to assess ideal dosing regime
- It is expected that all pre-clinical work will be completed by around mid 2009



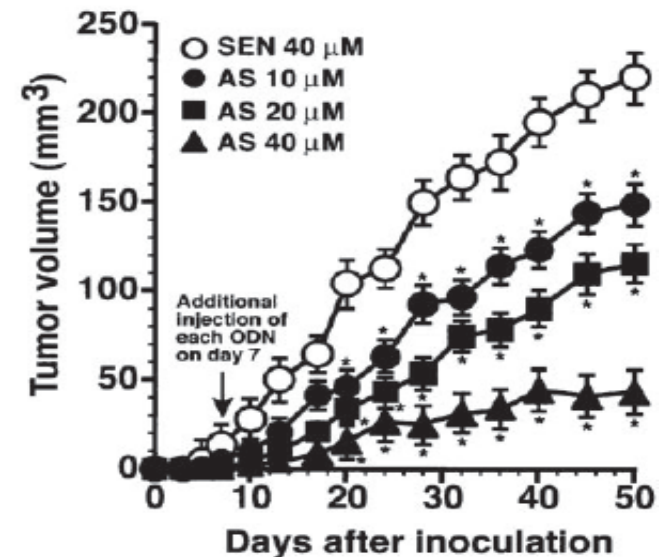
# Preclinical Program

## Anti-midkine antisense for rectal carcinoma

Anti-midkine antisense reduced growth of rectal carcinoma cells

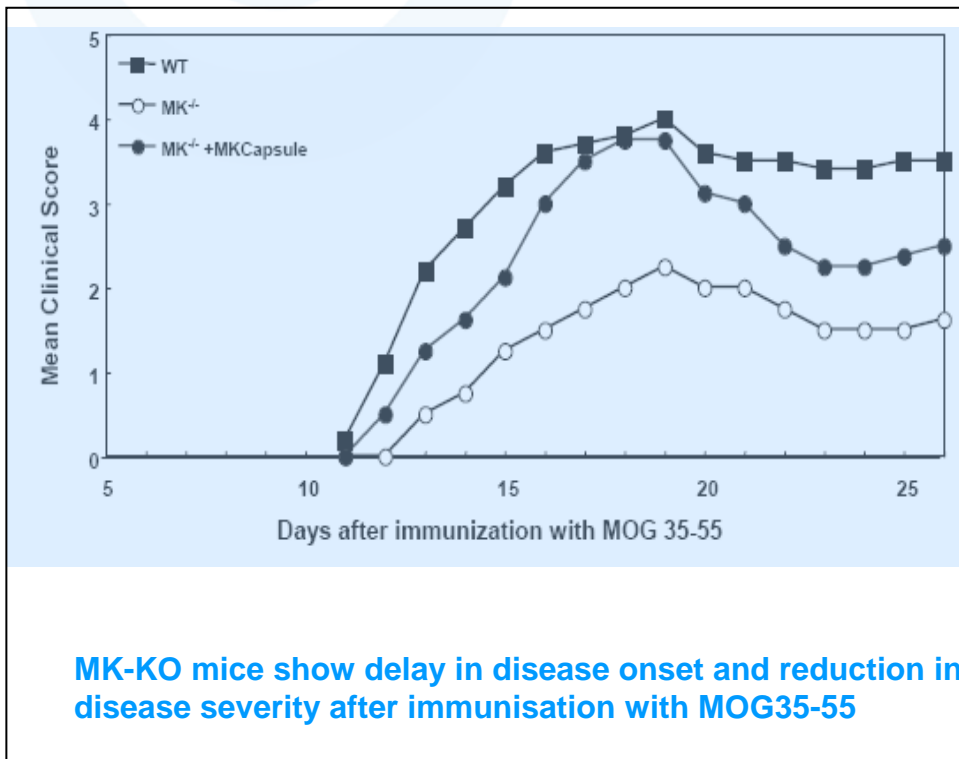


Anti-midkine antisense dose curve against rectal carcinoma in mice



# Preclinical Program

## Anti-midkine antibodies for the treatment of MS

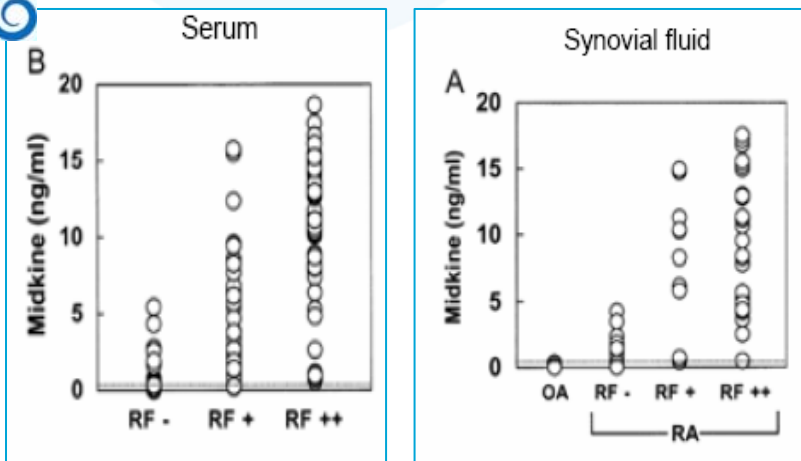


- Standard MS animal model (EAE) was used by inducing MS with the administration of MOG35-55
- Significant delay of disease onset was observed in mice without the Midkine gene (MK<sup>-/-</sup>)
- Significantly less severe MS like symptoms were observed in MK<sup>-/-</sup> mice
- Further pre-clinical work on the same animal model confirmed anti-midkine activity of 3 MTY antibodies
- These antibodies will be further tested to identify the most effective in reducing MS symptoms

# Preclinical Program

## Anti-midkine agents for the treatment of rheumatoid arthritis

Midkine levels observed in patients' with Rheumatoid arthritis



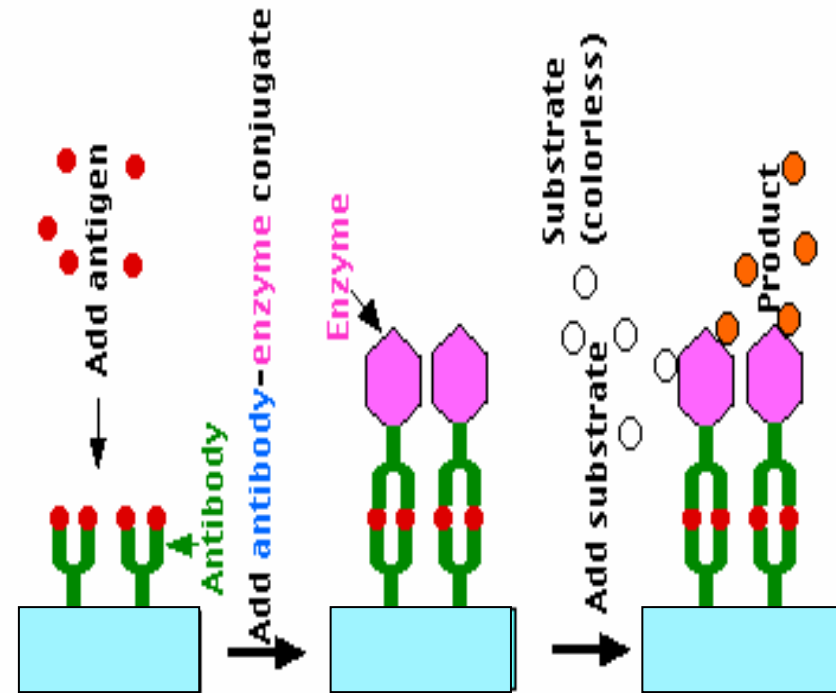
**Increased levels of Midkine detected in more severe cases of RA patients**

	Arthritis		Incidence
	+	-	
<b>WT Mice</b>	<b>6</b>	<b>1</b>	<b>86%</b>
<b>MK-/-</b>	<b>1</b>	<b>9</b>	<b>10%</b>
<b>MK pump</b>	<b>9</b>	<b>3</b>	<b>75%</b>

- 6/7 (86%) WT mice show symptoms using antibody induced arthritis model
- 1/10 of MK-/- (10%) mice show symptoms using antibody induced arthritis model
- When Midkine is injected into MK-/- mice 75% show symptoms of arthritis

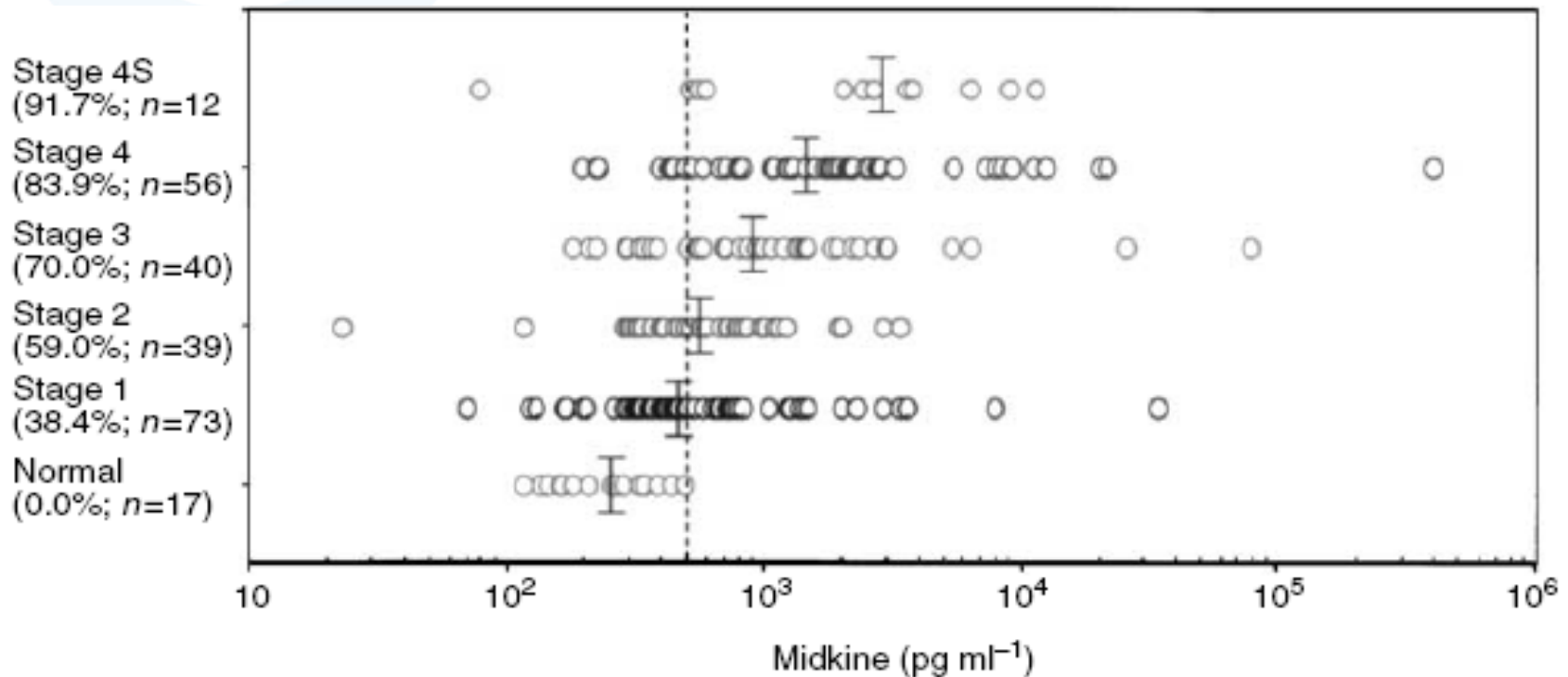
# Diagnostic portfolio

## Detection of Midkine using Enzyme-linked Immunoassay (ELISA)



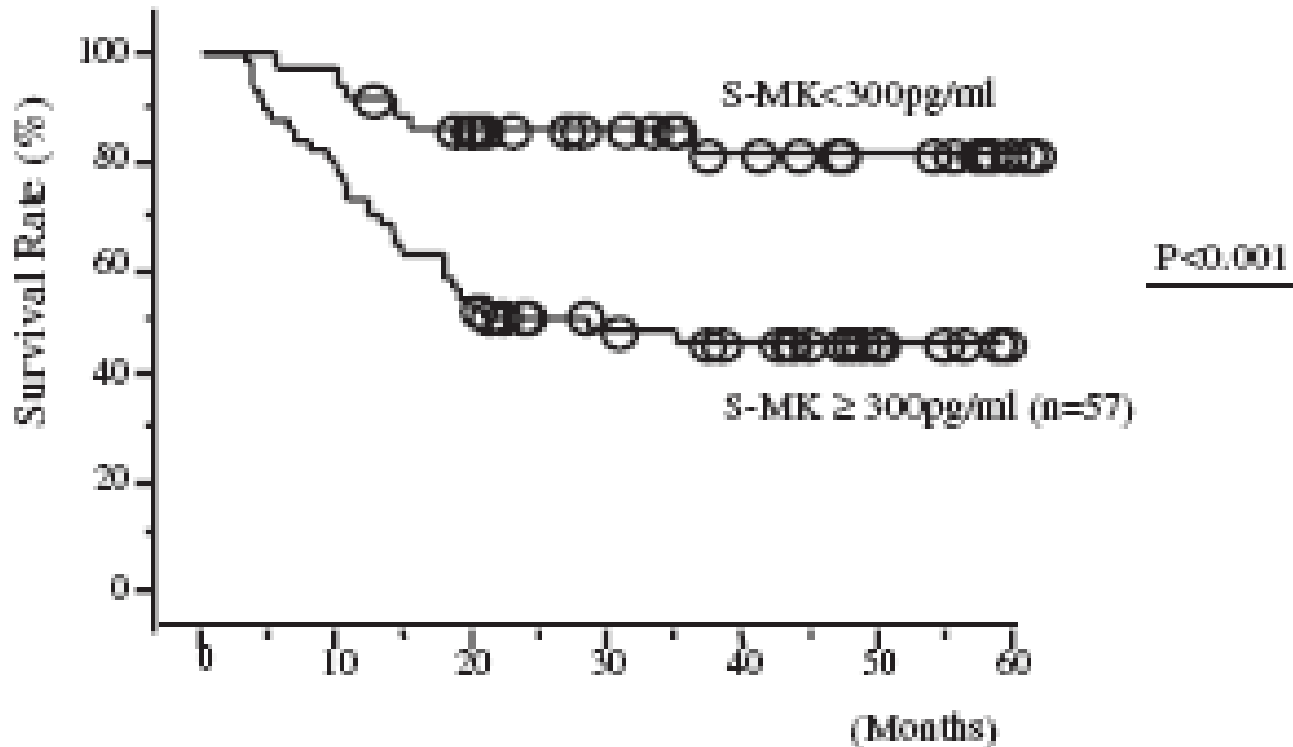
# Midkine as prognostic

Correlation of elevated level of blood midkine with poor prognosis of neuroblastoma



# Midkine as prognostic

Five year survival curves of 93 patients with oesophageal squamous cell carcinoma (Shimada et al, 2003)



# People

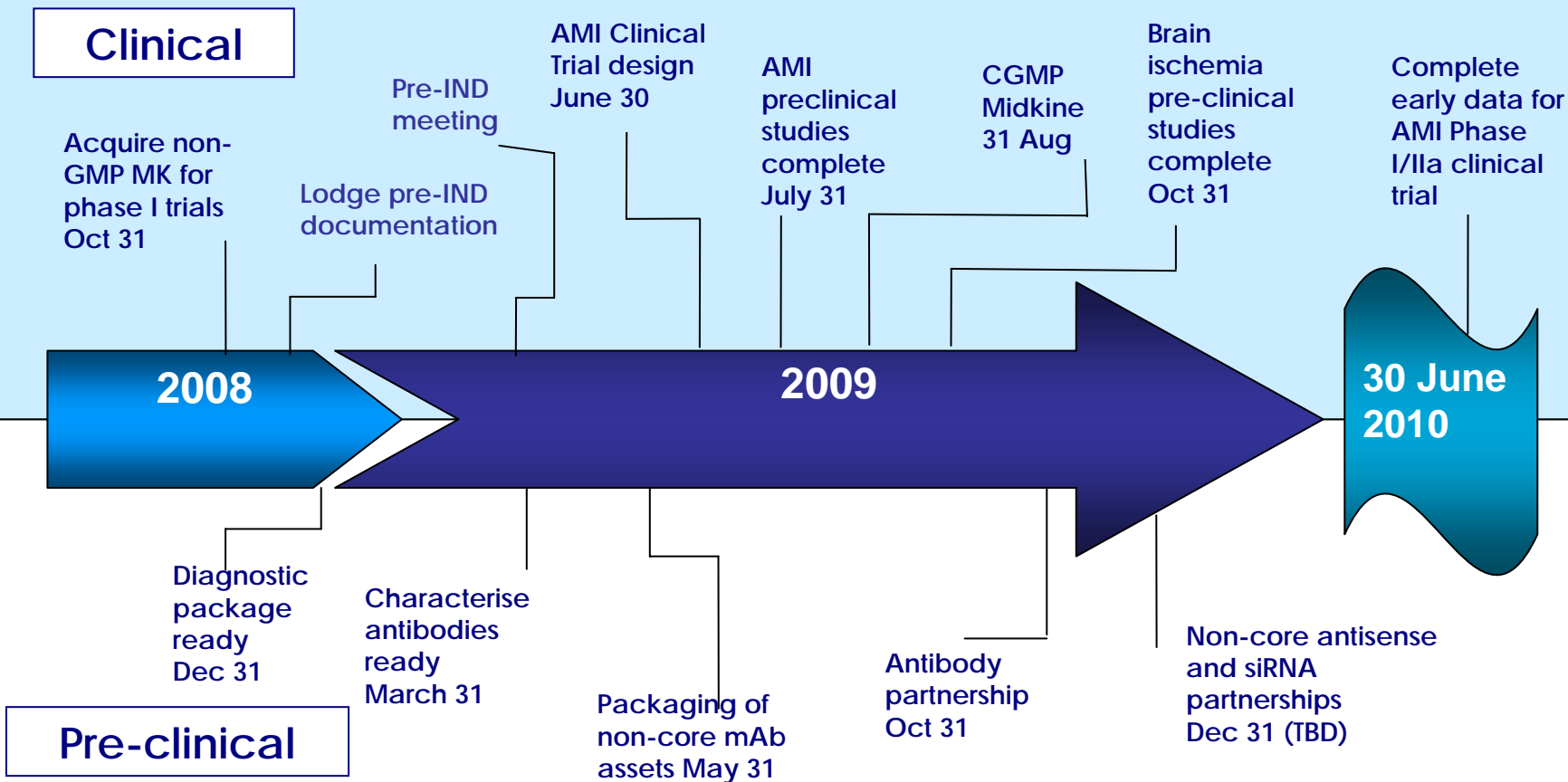
## ⦿ Experienced management

- Ms Maria Halasz, CEO – Experience in commercialising technology and funding biotechnology companies
- Dr Julia Hill, Project Manager – Scientific and commercialisation background

## ⦿ World Class advisory team

- Prof. Takashi Muramatsu – co-discoverer and author of several MTY patents
- Prof. Kenji Kadomatsu – co-discoverer and author of some MTY patents
- Dr Sadatoshi Sakuma – Cell Signals CEO, developed most of the MK data
- Dr Terrence Chew – clinical development and regulatory expert with extensive drug registration experience in the USA and Europe

# Key value inflection points



The Board and management consider the above a realistic timeline for achieving these milestones, it is subject to a number of external factors including availability of funding, external service providers and timely response from regulatory authorities.



# Summary

- ⦿ Medical Therapies is ideally positioned for leadership in Midkine and anti-midkine therapeutics
- ⦿ Board and management is focused on increasing shareholder value through a transparent, milestone based growth strategy
- ⦿ Our lead clinical program will deliver potentially “first in class” treatment for heart attack (significant unmet medical need)
- ⦿ Multiple partnership opportunities for midkine diagnostic, anti-midkine antibody and nucleotide assets
- ⦿ Actively targeting sustainable and significant financial rewards for shareholders

# Thank you

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# Forward looking statements

This presentation contains forward-looking statements. These statements are not guarantees of Medical Therapies Limited's future performance and involve a number of risks and uncertainties that may cause actual results to differ materially from the results discussed in these statements. Factors that might cause the Company's results to differ materially from those expressed or implied by such forward-looking statements include, but are not limited to, development and commercialisation of the Company's product portfolio, development or acquisition of additional products, availability of development capital and other risks and uncertainties.