Investor conference

December 2018

NASDAQ: ASLN
TPEx: 6497

ASLAN PHARMACEUTICALS

Forward looking statements

This presentation and the accompanying oral presentation contain forward-looking statements. These statements are based on the current beliefs and expectations of the management of ASLAN Pharmaceuticals Limited and/or its affiliates (the "Company"). These forward-looking statements may include, but are not limited to, statements regarding the Company's business strategy, the Company's plans to develop and commercialise its product candidates, the safety and efficacy of the Company's product candidates, the Company's plans and expected timing with respect to regulatory filings and approvals, and the size and growth potential of the markets for the Company's product candidates. The Company's estimates, projections and other forward-looking statements are based on management's current assumptions and expectations of future events and trends, which affect or may affect the Company's business, strategy, operations or financial performance, and inherently involve significant known and unknown risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation the risk factors described in the Company's U.S. Securities and Exchange Commission filings and reports (Commission File No. 001-38475), including the Company's prospectus dated May 8, 2018 filed with the U.S. Securities and Exchange Commission on such date.

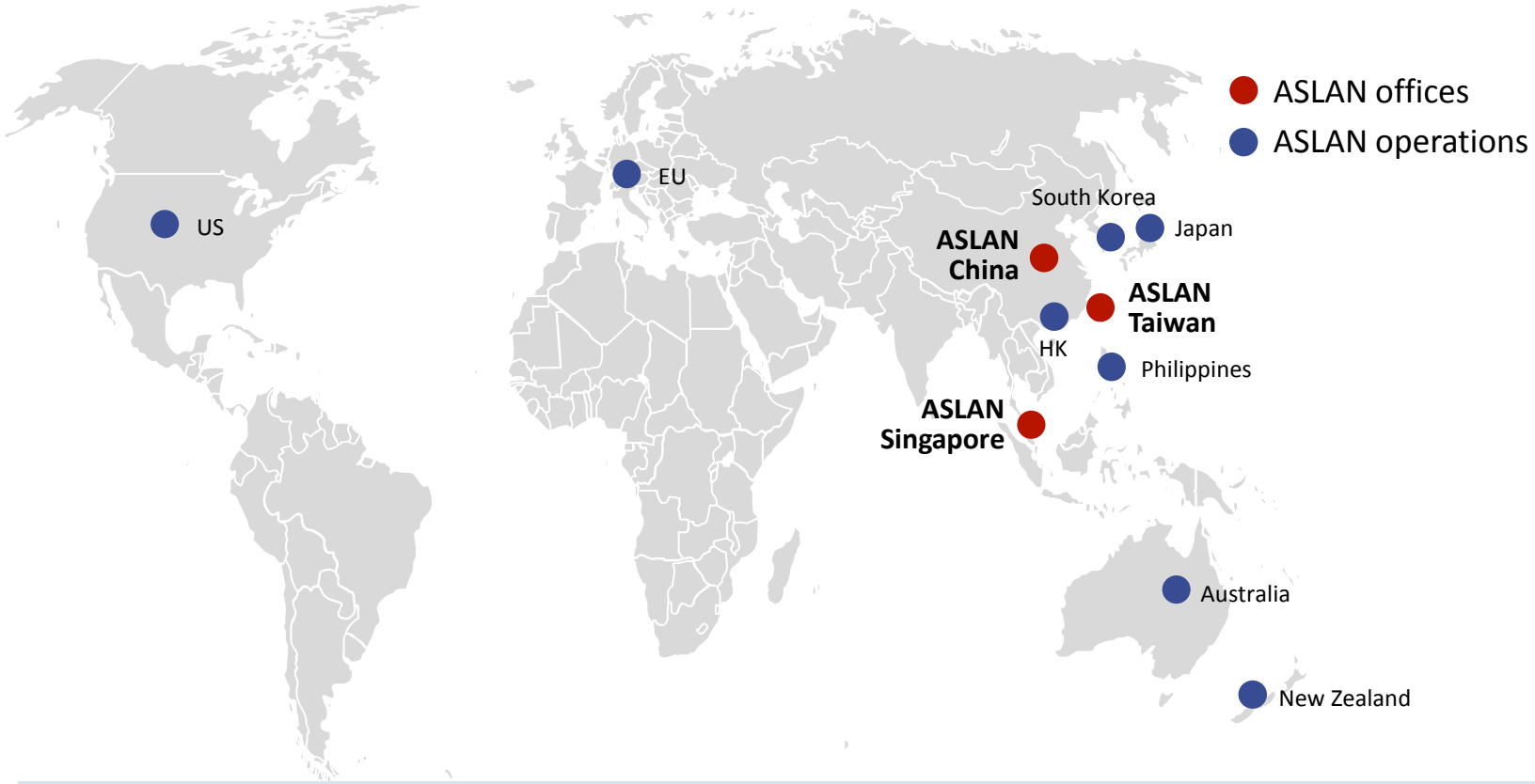
All statements other than statements of historical fact are forward-looking statements. The words "believe," "may," "might," "could," "will," "aim," "estimate," "continue," "anticipate," "intend," "expect," "plan," or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes are intended to identify estimates, projections and other forward-looking statements. Estimates, projections and other forward-looking statements speak only as of the date they were made, and, except to the extent required by law, the Company undertakes no obligation to update or review any estimate, projection or forward-looking statement.

Clinical-stage oncology-focused biopharma with deep pipeline and near-term readouts

Development platform focusing on Asia-prevalent cancers that are orphan in US and Europe allows a potentially faster route to market

Varlitinib	Oral, reversible pan-HER inhibitor has shown activity in a range of tumour types with differentiated tolerability profile • Jan 19 – 1st line GC phase 2 topline data • Jan 19 – 1st line BTC phase 1b data • 2H 19 – 2nd line BTC pivotal topline data
ASLAN003	Oral DHODH inhibitor with the potential to be first-in-class therapy for AML • 1Q 19 – AML phase 2 (dose optimisation)
ASLAN004	IL-4R / IL-13R inhibitor with the potential to be best-in-class therapy for atopic dermatitis and asthma • 1H 19 – phase 1 (SAD completion)

Headquartered in Singapore with global footprint



- Most clinical trials run in Asia where the majority of patients live
- Data is leveraged to seek approvals in US, EU and other global markets
- Building commercial organisation in China, also planning to build in US

Asia development platform

Asia offers a unique opportunity to accelerate development in diseases where:

- The cancers are more prevalent
- Access to a larger population of patients is easier and more cost-effective
- There are fewer competing trials

Cancer	US prevalence	Asia-Pac prevalence	Difference in prevalence rates
Gastric	32,076	1,027,691	5.6 x
Biliary tract	12,601	200,968	2.8 x
Liver	27,479	422,635	2.7 x
Nasopharyngeal	6,072	112,790	3.2 x

We have built a development platform centered in Asia that enables us to generate data suitable for submission to regulators in the US, Europe, China and Japan

International presence → Extensive knowledge of Asian cancers → Experienced management team → Deep local relationships

1 Gastric, liver and nasopharyngeal cancer: as of 2012, based on Globocan (2012); Bray et al (2013), Estimates of global cancer prevalence for 27 sites in the adult population in 2008.
2 Biliary tract cancer: as of 2016, based on Edison Investment Research, "Novel treatments for worldwide unmet needs," dated November 8, 2017, surveying Randi et al (2008), Epidemiology of biliary tract cancers: an update; Bridgewater et al (2014), Guidelines for the diagnosis and management of intrahepatic cholangiocarcinoma.
3 In this table, Asia-Pac refers to only China, Japan, Philippines, Singapore, South Korea, Thailand and Vietnam.

Development pipeline

Programs	Discovery	Preclinical	Phase 1	Phase 2	Pivotal	Key milestones
GLOBAL RIGHTS						
Varlitinib **(ASLAN001)** *Pan-HER inhibitor*	Biliary tract cancer (2nd line)					• Completion of enrolment January 2019 • Topline data 2H 19
	Gastric cancer					• Topline phase 2 data January 19
	Biliary tract cancer (1st line)					• Phase 1b data January 19
ASLAN003 *DHODH inhibitor*	AML					• Dose optimisation 1Q 19
ASLAN004 IL-4/IL-13 *Receptor inhibitor*	Atopic dermatitis					• SAD completion 1H 19
	Asthma					
PARTNERED PROGRAMS						
ASLAN002 *RON/MET inhibitor*	Solid tumours					

In August 2017, we initiated a phase 2/3 trial of *varlitinib* in first line gastric cancer. We completed recruitment of 52 patients for the phase 2 part of the study in August 2018 and expect to report topline phase 2 data in January 2019. (The pale blue shaded section represents the phase 3 portion of this ongoing trial. A separate phase 3 clinical trial is not anticipated.)

Varlitinib (ASLAN001)

Varlitinib in pivotal studies for BTC and GC with first pivotal read-out in 2019

Pan-HER inhibitor	Highly potent, oral, reversible, small molecule with balanced inhibition across all HER family receptors.
Robust activity	Demonstrated activity in biliary tract, gastric, breast, colorectal cancer. Two phase 2 trials completed, over 500 patients dosed.
Competitive efficacy	60% response rate in randomised 2nd line HER2+ breast cancer. Superior to standard of care.
Differentiated safety	Differentiated tolerability for pan-HER class. 5% grade 3/4 diarrhoea across all studies.
Focus on subsets of BTC and GC	Only pan-HER being developed in BTC and HER1/HER2 GC. US orphan drug designation obtained from the FDA.

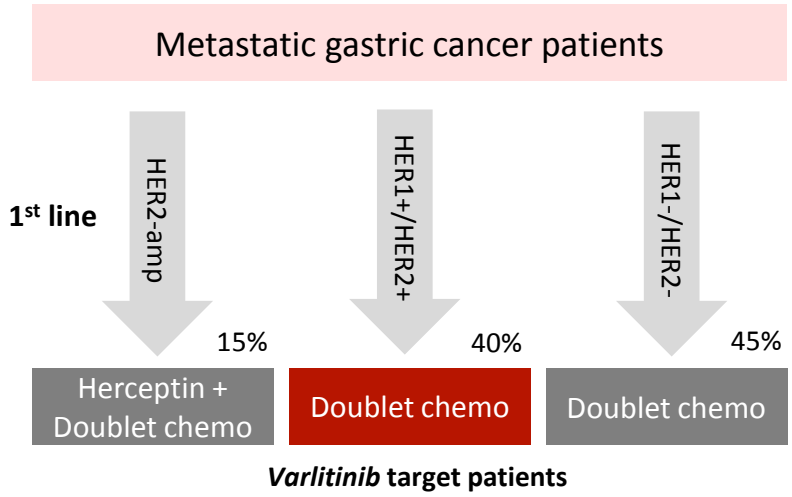
Opportunities in gastric and biliary tract cancers

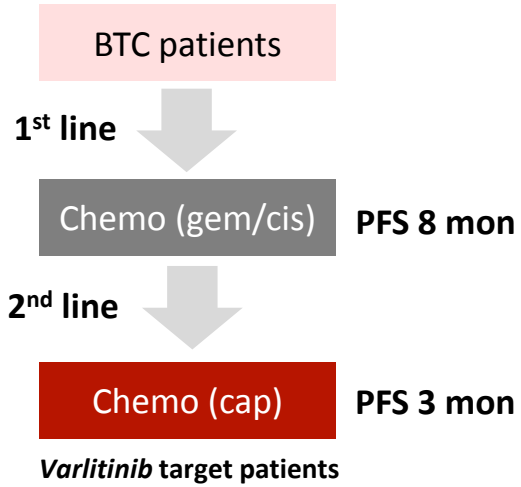
Gastric cancer

- 5th most prevalent cancer globally
- 3rd highest cause of cancer mortality
- Median overall survival (OS) 11.1 months
- One approved targeted therapy in 1st line: Herceptin increases median OS to 13.8 months
- 590,000 patients (China), 30,000 patients (US)

Biliary tract cancer

- Often considered as subset of HCC, however drugs approved for HCC are not approved for BTC
- Median OS 11.7 months
- No approved targeted therapies
- Around 70% of BTC express HER-family receptors
- 145,000 patients (China), 13,000 patients (US)





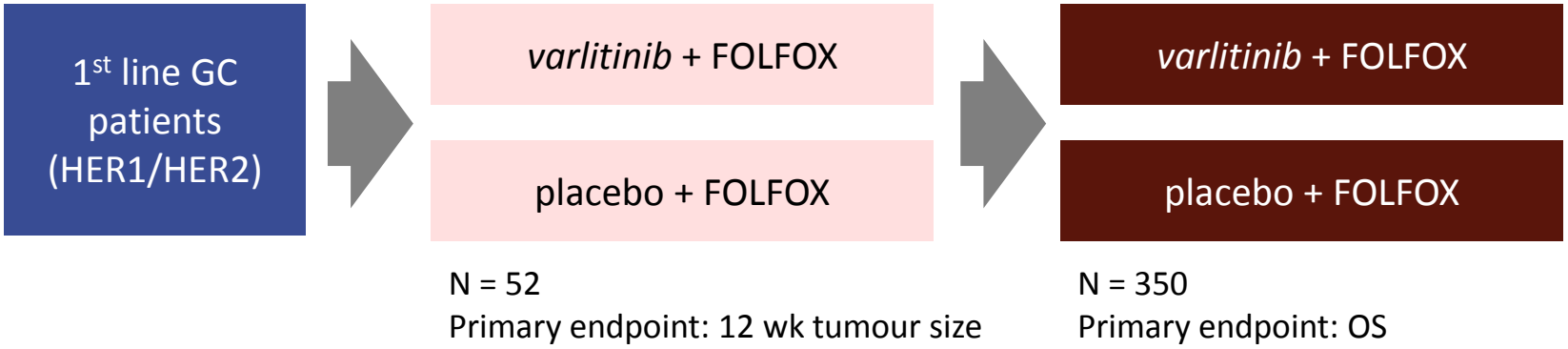
Varlitinib has the potential to be the first targeted therapy for biliary tract cancer and first-line treatment for HER1/HER2 coexpressing gastric cancer

Gastric cancer

Global pivotal trial (1st line HER1/HER2)

Global phase 2/3 study underway with phase 2 topline data anticipated Jan 19

- Double-blind randomised placebo controlled
- 32 sites in Asia and Europe
- Phase 2 recruitment completed in August 2018



Historical efficacy of 1st line GC treatments:

Regimen	ORR	PFS (mon)	Patient subset	Source
FOLFOX	40%	6.2	All	Lee et al, 2010
cis/cap or cis/5FU	35%	5.5	HER2-amp	TOGA study (Bang et al, 2010)
Herceptin + doublet chemo	47%	6.7		

Biliary tract cancer

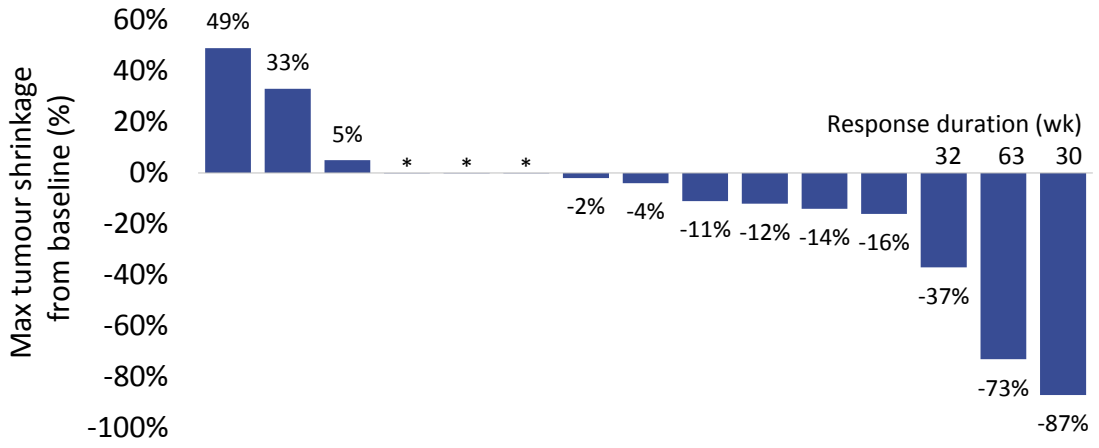
Promising signs of efficacy in a difficult to treat cancer

40 solid tumour patients (15 BTC patients) → *Varlitinib* + doublet chemo (18 weeks) → *Varlitinib* monotherapy → Progression

15 BTC patients were recruited across two phase 1b clinical trials testing *varlitinib* in combination with doublet chemotherapy

- 20% response rate, 87% disease control rate (3 PR, 10 SD, 2 PD)
- Patients had received up to 2 prior treatments
- All responders had a duration of response of at least 30 weeks and were controlled after patients discontinued doublet chemo and continued on *varlitinib* monotherapy

Responses in BTC patients (n=15)



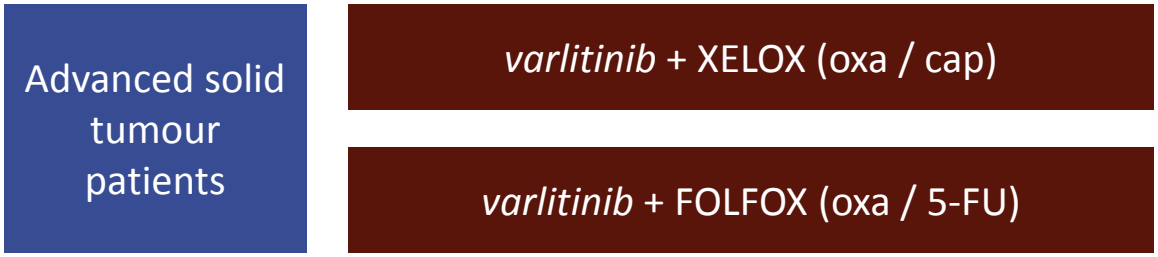
Responses across all patients (n=40)

Tumour type	N	ORR	DCR
Biliary tract	15	20%	87%
Gastric	5	40%	100%
Colorectal	11	18%	100%
Breast	2	0%	100%
Other	7	0%	86%
Total	40	18%	93%

Data cut-off as of 12 Sep 2017

* These patients did not have measurable lesions, but their disease was declared to be stable by investigator based on non-measurable tumour mass

Recent data continues to support activity in heavily pretreated BTC and CRC patients



N = 30

- Phase 1b investigator-initiated trial of *varlitinib* in combination with doublet chemo in solid tumours presented at ESMO 2018
- Patients had a median of 3 lines of prior chemotherapy
- Out of 28 evaluable patients:
  - 3 PR (11%), 16 SD (57%)
  - 36% disease control rate (over 18 wk, after which patients on *varlitinib* monotherapy)
  - Durable efficacy in BTC and CRC, with 7 patients having PFS over 24 weeks up to 92 weeks
- MTD established at 300mg BID for both regimens
- Study is ongoing testing a further doublet chemo regimen (FOLFIRI)
- Full study results expected in 1H 19

Data cut-off as of 12 Apr 2018

Biliary tract cancer

Pivotal TreeTopp trial (2nd line)

- Pivotal "TreeTopp" clinical trial in 2nd line BTC
  - 58 sites including US, EU, Japan, China, AsiaPac
  - Led by Dr Milind Javle (MD Anderson)
  - Clinical trial design agreed with US FDA
- Completion of enrolment expected in Jan 2019
- Topline data expected in 2H 19
- Supplemental single-arm China study ongoing in 2nd line BTC (68 pts)

2nd line BTC patients

varlitinib + capecitabine

placebo + capecitabine

N = 120
Primary endpoints: ORR, PFS
Secondary endpoints: OS, DOR, DCR, tumour size

Historical efficacy of chemotherapy in 2nd line BTC:

ORR	PFS (mon)	OS (mon)	Source
3.4%	3.0	6.6	Fornaro et al, 2015
4%	2.8	7.7	Takahara et al, 2014
7.7%	3.2	7.2	Lamarca et al, 2014

The trial will meet its primary objective if either endpoint is significant at the one-sided 5% level or if both endpoints are significant at the one-sided 10% significance level

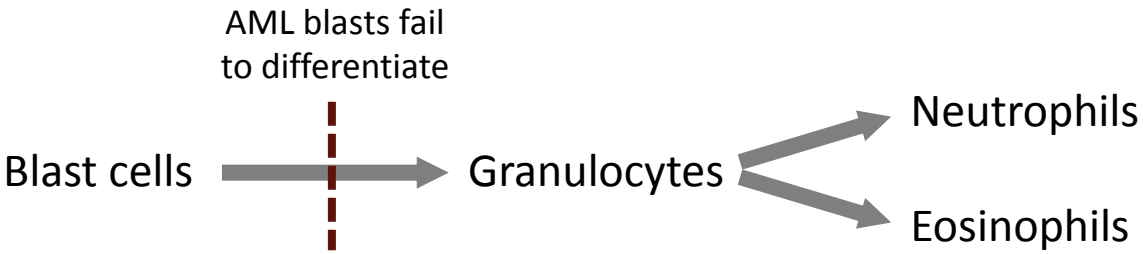
Varlitinib has the potential to be first targeted therapy approved for BTC and 1st line HER1/HER2 coexpressing GC

BTC 2nd line	• January 2019 – Global pivotal study completion of enrolment • 2H 19 – Topline data readout • File for approval in major markets
GC 1st line (HER1/HER2)	• January 2019 – Phase 2 topline data • Initiate phase 3
BTC 1st line	• January 2019 – Phase 1b data • Initiate phase 2

ASLAN003

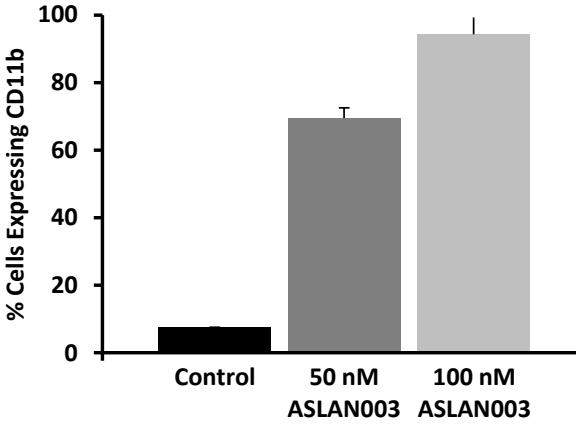
ASLAN003 is an orally active, potent inhibitor of DHODH

DHODH controls the rate-limiting step in the synthesis of pyrimidines and contributes to the production of ATP

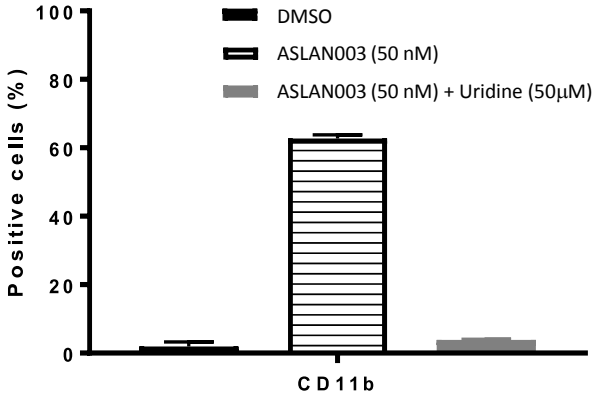


ATRA differentiates blasts in up to 15% of AML patients with >90% CR

Upregulation of CD11b in AML blast cell line THP-1 with ASLAN003



Uridine abrogates ASLAN003 mediated differentiation



ASLAN003 promotes differentiation in multiple cell lines that are unresponsive to ATRA. This differentiation is mediated via DHODH.

Ex-vivo and in-vivo data show promising efficacy in AML

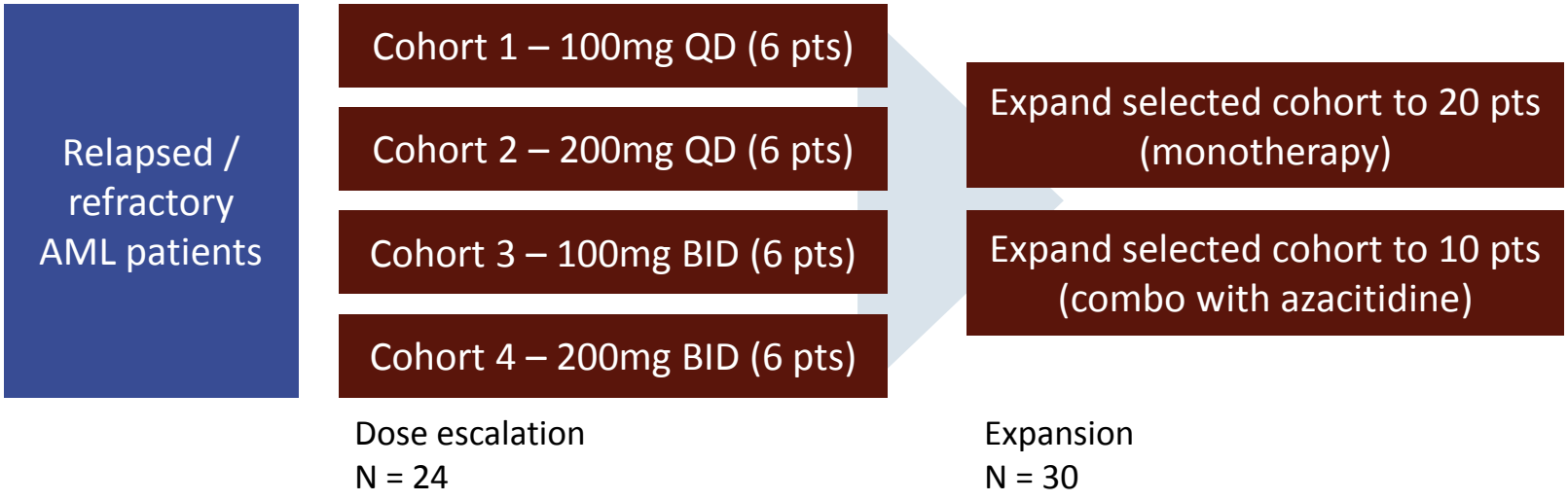
CDX	• ASLAN003 significantly prolonged survival in MOLM-14 ($p=0.031$) and THP-1 ($p<0.001$) AML models • ASLAN003 significantly increased differentiation of AML cells in the bone marrow of xenograft models
PDX	• ASLAN003 significantly prolonged survival in AML patient derived xenografts
Ex-vivo	• ASLAN003 significantly increased differentiation of primary AML cells derived from patients, including one relapsed AML case

(Data presented at ASH 2018)

Ongoing phase 2 in R/R AML

Study design:

- ASLAN003 monotherapy
- Primary endpoint: CR / CRi rate
- AML mutation analysis and ex-vivo bone marrow differentiation will allow identification of patients that are sensitive to ASLAN003



ASLAN003 well-tolerated at all dose levels

Adverse event	N=14			
	Any grade		Grade ≥ 3	
	N	(%)	N	(%)
Leukocytosis	2	14	1	7
Nausea	2	14	0	0
Rash maculo-papular	2	14	0	0
Pleural effusion	1	7	1	7
Abdominal pain	1	7	0	0
Fatigue	1	7	0	0
Conjunctivitis	1	7	0	0
Decreased appetite	1	7	0	0
Hypokalaemia	1	7	0	0
Epistaxis	1	7	0	0
Rash generalised	1	7	0	0

(Data cutoff 16 November 2018, data presented at ASH 2018)

The most commonly occurring related adverse events were leukocytosis, nausea and rash, with grade 3 / 4 leukocytosis in 1 patient

Early signs of clinical activity in lower dose cohorts

Cohort	100mg QD	200mg QD	100mg BID	Total
Patients treated	6	6	2	14
Patients evaluable for efficacy	2	5	1	8
Patients with signs of efficacy	1	3	0	4

(Data cutoff 16 November 2018, data presented at ASH 2018)

- 14 patients enrolled
- 8 patients received at least 1 post-treatment assessment and evaluable for efficacy
- In the evaluable patients, 4 patients showed clinical signs of efficacy:
  - 1 PR and 1 suspected CR (6% blast cells in peripheral blood, no bone marrow sample)
  - 2 patients exhibited evidence of myeloid differentiation
  - 1 patient developed suspected differentiation syndrome
- Overall
  - 2 suspected Differentiation Syndrome
  - 4 patients had stable disease for more than 3 months

ASLAN003 has the potential to be first-in-class DHODH inhibitor in oncology

Potent inhibition of DHODH	Binding affinity up to two orders of magnitude stronger than 1st generation inhibitors
Potentially differentiated safety profile	Lack of toxicities associated with 1st gen inhibitors and other novel AML therapies eg midostaurin, enasidenib
May be applicable in broad range of AML patients	Enables AML blast cells to differentiate into granulocytes in a broad range of AML cell lines
Orphan designation in AML	US orphan drug designation obtained from the FDA
Evidence of activity in TNBC	DHODH inhibition is active in animal models of TNBC and other solid tumours

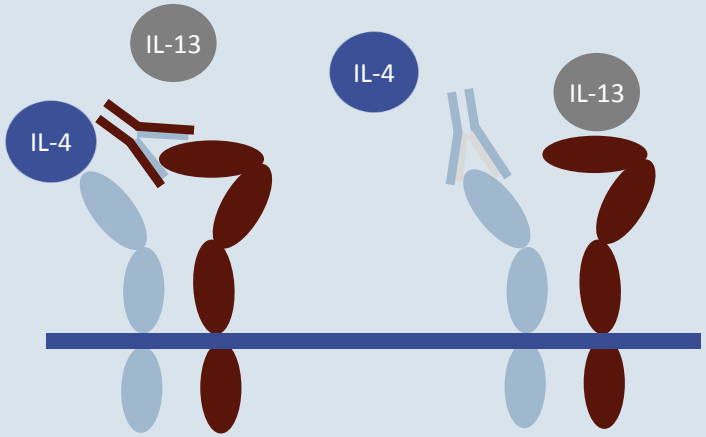
ASLAN004

ASLAN004 blocks signaling through IL-4R / IL-13R

- ASLAN004 targets the IL-13 receptor α1 subunit
- Blocks same pathways responsible for allergic inflammation as *dupilumab*
  - But ASLAN004 target has narrower cellular distribution than *dupilumab* target
- Initiated phase 1 in 2H 18

Mechanism of action

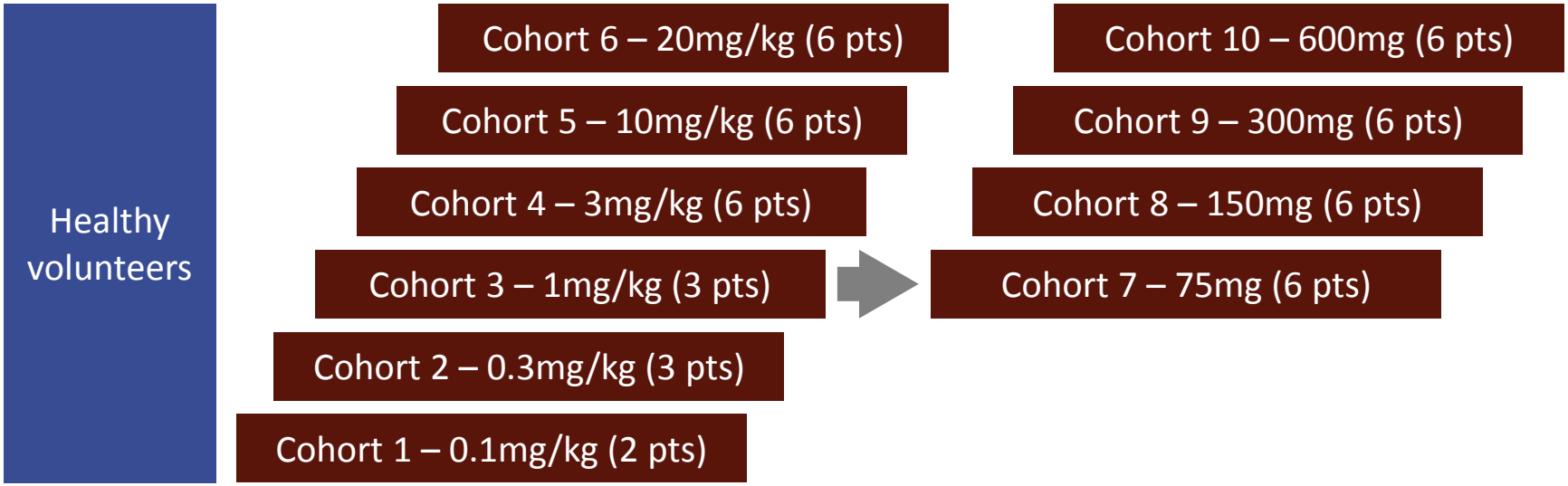
ASLAN004
Binds IL-13Rα1, blocking the type 2 receptor, which is responsible for allergic inflammation



Dupilumab
Binds IL-4Rα, blocking the type 2 and type 1 receptors

Phase 1 in atopic dermatitis underway

- Phase 1 single ascending dose recruiting healthy volunteers
- Sites including Singapore, Australia and the US
- Expected to complete in 1H 19



Part A (IV)
60 minute IV infusion via syringe driver

Part B (SC)
Parallel conduct after cohort 3 completed

ASLAN004 has the potential to be best-in-class therapy

	ASLAN004	*Dupilumab*
Dosing	• Potential for 4 weekly dosing	• Dosed every 2 weeks
Drug product	• 3 months stability 40°C • ≥6 months stability 25°C • Greater storage flexibility	• 14 days max storage at 25°C • Cannot be stored above 25°C
Loading dose	• Not using loading dose	• Yes (600mg via 2 injections)
Safety	• Type 1 receptor not targeted	• Type 1 receptor potentially implicated in conjunctivitis and herpes infections

Summary

Management team with global development experience

Position		Experience	
Dr Carl Firth CEO		AstraZeneca Head of New Portfolio (China) Head of BD (Asia)	Bank of America Merrill Lynch Head of Asia Healthcare Banking
Dr Bertil Lindmark CMO		AstraZeneca Head of Development, R&I Head of Development, Japan	Almirall Global Head of R&D CSO
Dr Mark McHale COO		AstraZeneca Head of Molecular Sciences, R&I Head of Early Asthma Portfolio	gsk
Stephen Doyle GM China VP Commercial		Boehringer Ingelheim VP Specialty Care & Diabetes (China)	SANOFI VP Oncology (China)
Dr Chih-Yi Hsieh GM Taiwan VP Medical		NOVARTIS Medical Advisor	 Oncologist, Taipei VGH
Kiran Asarpota VP Finance		GLOBAL BRANDS GROUP Group Finance Director	

Symbicort®

GIOTRIF® (afatinib) tablets

IRESSA® gefitinib

OFEV® nintedanib

CRESTOR® rosuvastatin calcium

Financials

As of 30 September 2018

Exchange / ticker	US – NASDAQ: ASLN Taiwan – TPEx: 6497
Shares outstanding	160.2M
Cash balance	US$ 35M
Operating expenses	US$ 31M (9M 18)
Recent financing	US$ 42M raised in May 2018 (NASDAQ IPO)

Anticipated near-term milestones

	Expected timeline	Program	Milestone
✓	Complete	ASLAN003	Interim phase 2 data (ASH, Dec 2018)
	January 2019	*Varlitinib*	GC phase 2 topline data
	January 2019	*Varlitinib*	1st line BTC phase 1b data
	1Q 19	ASLAN003	Dose optimisation
	1H 19	ASLAN004	Phase 1 SAD completion
	2H 19	*Varlitinib*	2nd line BTC pivotal topline data

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