Company presentation

December 2019

NASDAQ: ASLN
TPEx: 6497

ASLAN PHARMACEUTICALS

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This presentation contains forward-looking statements. These statements are based on the current beliefs and expectations of the management of ASLAN Pharmaceuticals Limited (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 Form 20-F filed with the U.S. Securities and Exchange Commission (the "SEC") on April 29, 2019.

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 biopharma with oncology and immunology focus

Platform leverages Asia clinical centres combined with US/EU centres to accelerate clinical development

Programs	Discovery	Preclinical	Phase 1	Phase 2	Anticipated milestones
ASLAN004 *IL-4/IL-13 Receptor inhibitor*	Atopic dermatitis				• MAD interim data early 2020 • MAD completion 2H 20
	Asthma				
ASLAN003 *DHODH inhibitor*	AML				
***Varlitinib* (ASLAN001)** *Pan-HER inhibitor*	Gastric cancer (2nd line)				
	Neo-adj breast cancer				
	Hepatocellular carcinoma (2nd line)				
	Biliary tract cancer (1st line)				
Discovery programs					
AhR antagonist[1]	Oncology				

1 Aryl hydrocarbon receptor, or AhR, program is being developed in an ASLAN majority-owned joint venture with Bukwang Pharmaceutical Co., Ltd.

Investigator initiated trial

Asia offers a unique opportunity to accelerate global clinical development

Where the diseases are more prevalent

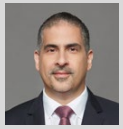
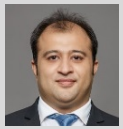
Cancer prevalence	US	Asia-Pac	Difference in prevalence
Biliary tract	12,601	200,968	2.8 x
Gastric	32,076	1,027,691	5.6 x
Liver	27,479	422,635	2.7 x
Nasopharyngeal	6,072	112,790	3.2 x

Where there are fewer competing clinical trials

Trials per M capita	US	Asia-Pac (ex-JP)	Difference in density
All diseases	367	18	20 x
AML	5.35	0.03	167 x
Atopic dermatitis	1.03	0.02	62 x

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.
4 Clinical trial density is defined as number of trials per one million population.

Management team with global development experience

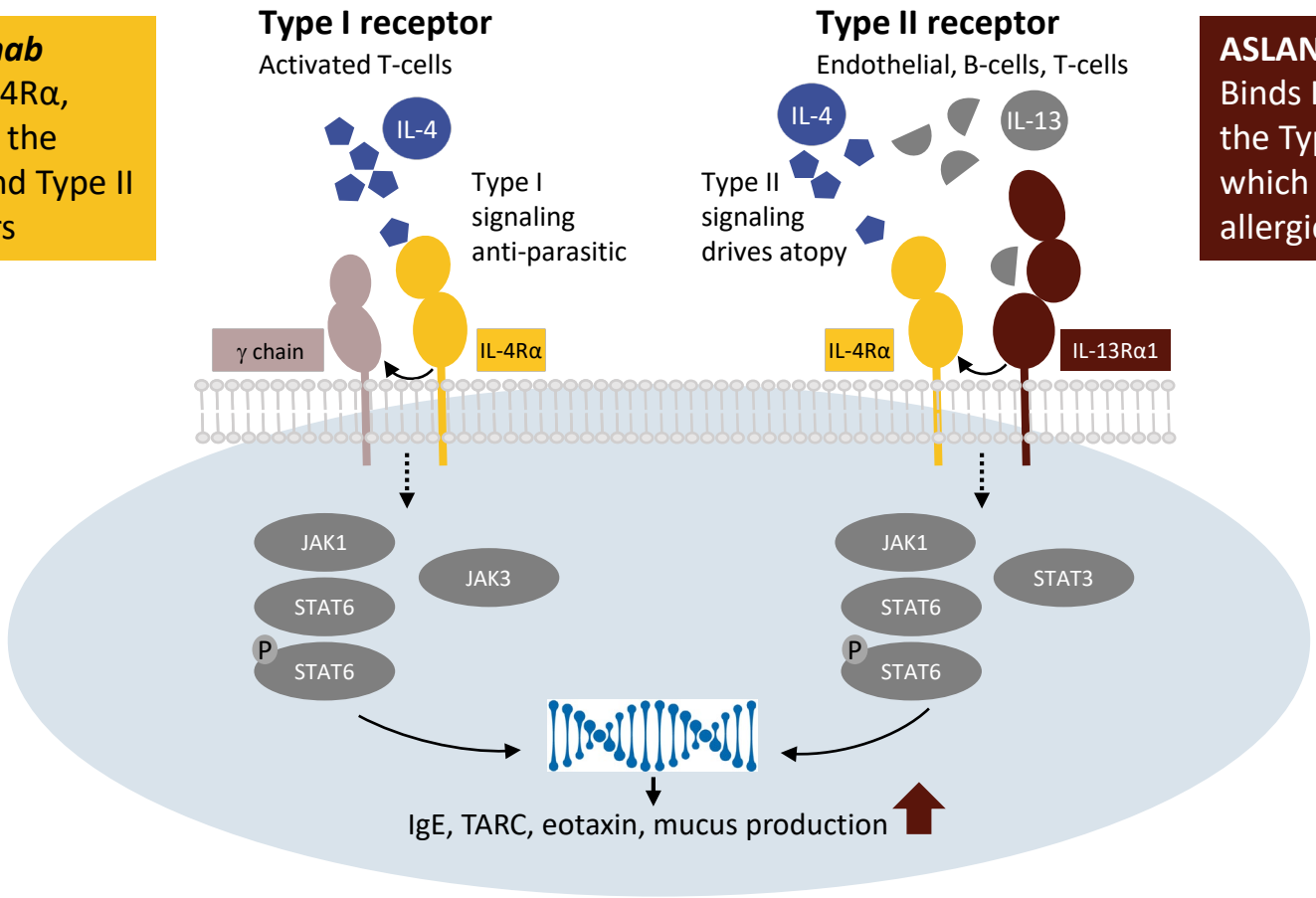
Position		Experience	
Dr Carl Firth CEO		AstraZeneca Head of New Portfolio (China) Head of BD (Asia)	Bank of America Merrill Lynch Head of Asia Healthcare Banking
Dr Mark McHale CDO Head of R&D		AstraZeneca Head of Molecular Sciences, R&I Head of Early Asthma Portfolio	gsk
Dr Bertil Lindmark Acting CMO		AstraZeneca Head of Development, R&I Head of Development, Japan	almirall feel the science Global Head of R&D CSO
Stephen Doyle CBO		Boehringer Ingelheim VP Specialty Care & Diabetes (China)	SANOFI VP Oncology (China)
Kiran Asarpota VP Finance		GLOBAL BRANDS GROUP Group Finance Director	

ASLAN004

ASLAN004 blocks signaling through IL-4 and IL-13

- ASLAN004 targets the IL-13 receptor α1 subunit
- Blocks same pathways responsible for allergic inflammation as *dupilumab*

Dupilumab
Binds IL-4Rα, blocking the Type I and Type II receptors



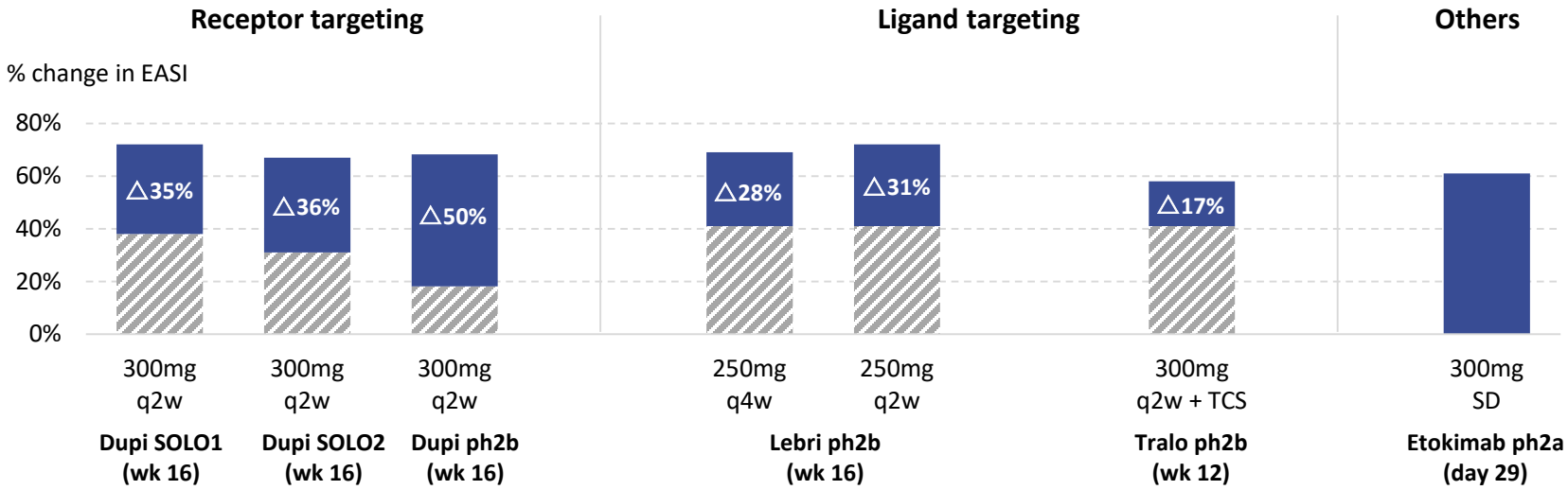
ASLAN004
Binds IL-13Rα1, blocking the Type II receptor, which is responsible for allergic inflammation

Receptor targeting is more effective than ligand targeting

IL4/IL13 receptor targeting		
ASLAN004	**IL-13Rα1**	**Phase 1 / POC in atopic dermatitis**
Dupilumab	IL-4Rα	Approved in atopic dermatitis and allergic asthma

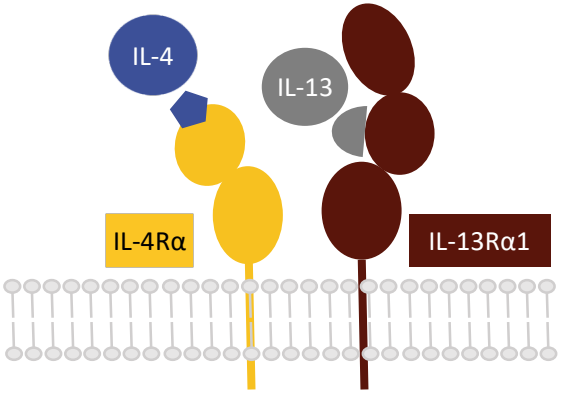
IL4/IL13 ligand targeting		
Lebrikizumab	IL-13	Discontinued in asthma, phase 3 in atopic dermatitis
Tralokinumab	IL-13	Discontinued in asthma, phase 3 in atopic dermatitis
Altrakincept	IL-4	Discontinued
Pascolizumab	IL-4	Discontinued

Other targets		
Etokimab	IL-33	Discontinued in atopic dermatitis
MOR106	IL-17C	Discontinued in atopic dermatitis



ASLAN004 binds more strongly to receptor than *dupilumab* relative to its respective ligand

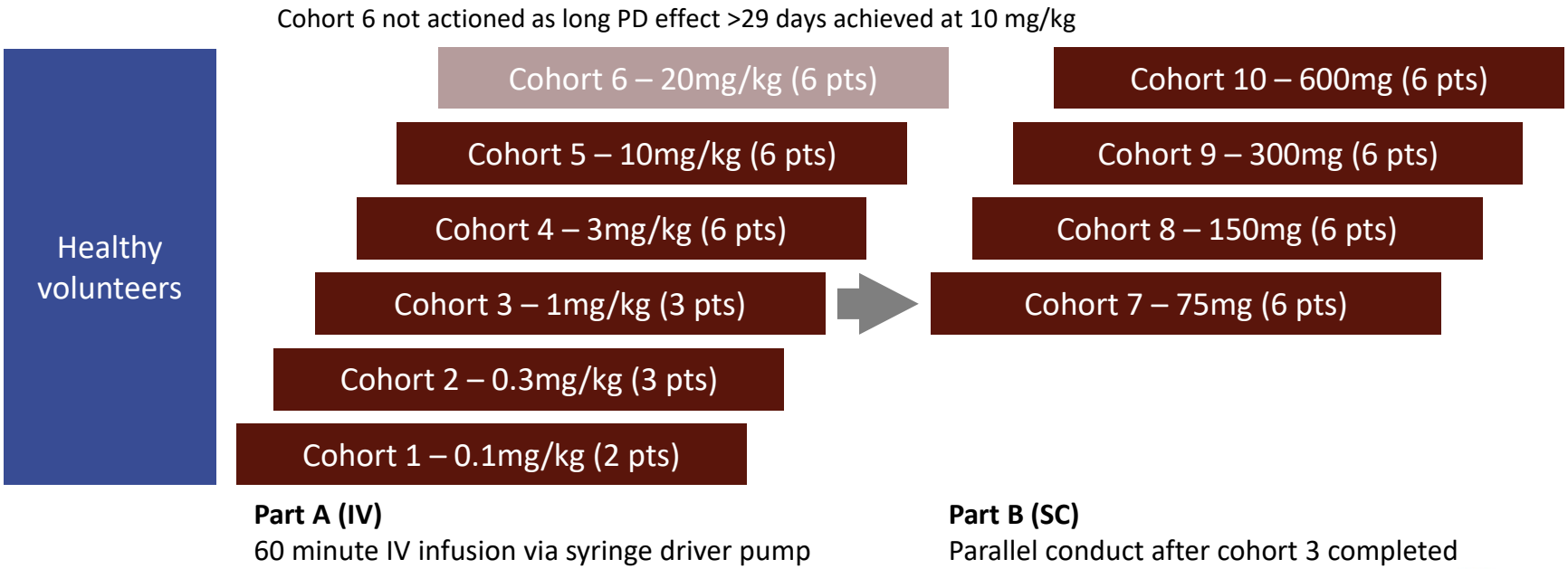
Receptor	Ligand	Kd (nM)	Comments
IL-13Rα1	IL-13	30	ASLAN004 has a 60 fold higher affinity for receptor than IL-13
IL-13Rα1	ASLAN004	0.5	
IL-4Rα	IL-4	0.1	*Dupilumab* only has a 3 fold higher affinity for receptor than IL-4
IL-4Rα	*Dupilumab*	0.03	



ASLAN004 offers a greater affinity difference between ligand and receptor binding which may translate to lower required concentration *in vivo*

Phase 1 SAD study in healthy volunteers completed

- Well tolerated at all doses when administered IV and subcut
  - No adverse events that led to discontinuations, no significant injection site reactions
- Analysis of downstream mediators including pSTAT6 demonstrated complete inhibition within one hour of dosing with IV and maintained for more than 29 days
- PK profile may allow for monthly dosing
- Trough level required to completely inhibit signal transduction via the receptor was over an order of magnitude lower than that of existing therapies



ASLAN004 well-tolerated at all dose levels

Drug-related adverse event	N = 44				
	Any grade		Severity		
	N	(%)	Mild	Moderate	Severe
Decreased appetite	2	5	1	1	0
Alanine aminotransferase increased	1	2	1	0	0
Diarrhoea	1	2	1	0	0
Pyrexia	1	2	1	0	0
Blood lactate dehydrogenase increase	1	2	1	0	0
Weight decrease	1	2	1	0	0
Lymphocyte count decrease	1	2	1	0	0
Headache	1	2	0	1	0
C-reactive protein increase	1	2	1	0	0
Injection site pruritus (mild)	1	2	1	0	0

ASLAN004 MAD is designed to deliver PoC

- MAD / PoC study testing ASLAN004 in moderate-severe atopic dermatitis patients
- Expected to complete in 2H 20
- Double-blind, placebo controlled study
- Patients dosed for 8 weeks with a 12 week recovery period

Moderate-to-severe atopic dermatitis patients (N = 42)

Cohort 1 – Dose 1 QW (ASLAN004 N = 6, placebo N = 2)

Cohort 2 – Dose 2 QW (ASLAN004 N = 6, placebo N = 2)

Cohort 3 – Dose 3 QW (ASLAN004 N = 6, placebo N = 2)

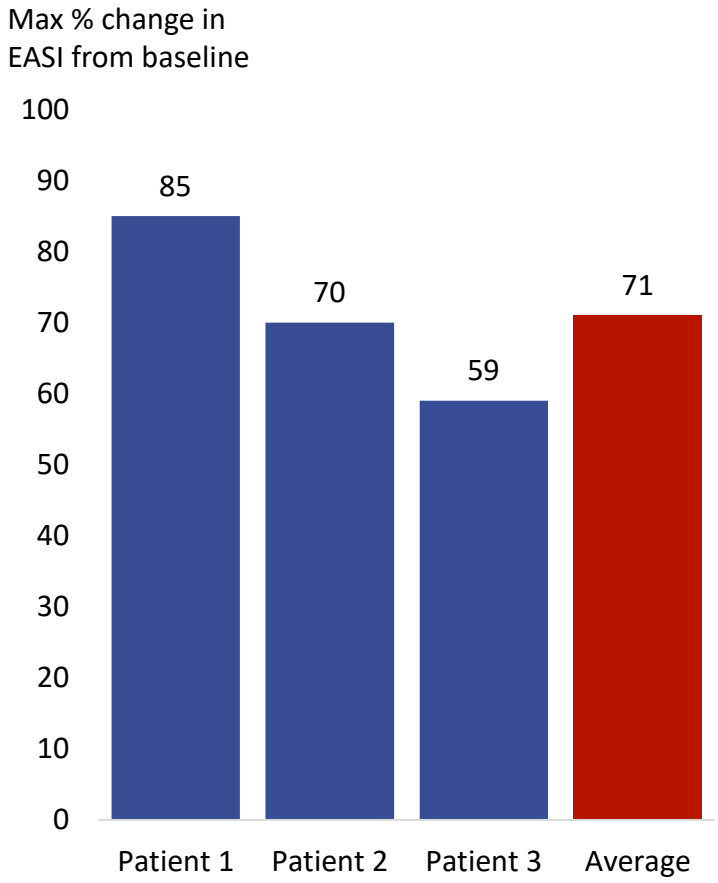
Expansion cohort – Dose 1, 2 or 3 QW (ASLAN004 N = 12, placebo N = 6)

Primary endpoints are safety and tolerability

Secondary endpoints include percentage change in EASI score, EASI50, EASI75, pruritus score and IGA

Early signs of efficacy in low dose cohort

- First patient enrolled on 22 October 2019
- As of 29 November 2019, 6 patients treated in low dose (200mg) cohort
- ASLAN004 well-tolerated, with no serious AEs or treatment discontinuation
- 3 patients completed at least 1 month of dosing with average reduction in EASI of 71%
- Maximal efficacy expected at 6 to 8 weeks
- Data monitoring committee will meet in late December, after which 2nd dose cohort expected to open
- Additional interim data from the first 2 cohorts expected in early 2020



ASLAN004 is a first-in-class IL-13R antibody and has the potential to be superior to *dupilumab*

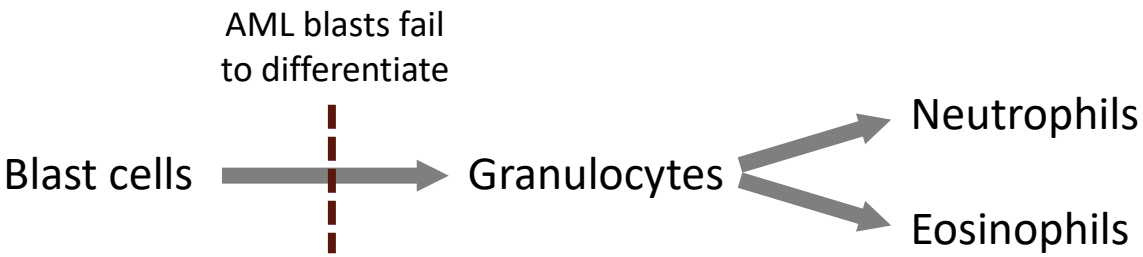
	Dupilumab	ASLAN004
Efficacy	• Blocks signaling through IL-4 and IL-13 • High steady state concentration needed for full target inhibition	• Blocks signaling through IL-4 and IL-13 • Only 1mg/l needed for full target inhibition
Dosing	• Dosed 300mg every 2 weeks	• Potential for 4 weekly dosing • Complete inhibition of pSTAT6 to 29 days after a single IV dose
Safety	• Conjunctivitis reported between 25% and 50% in clinical practice • Injection site reactions common potentially due to formulation	• No conjunctivitis seen to date • No significant injection site reactions seen to date
Stability	• Cannot be stored above 25^{o}C	• Over 9 months stability at 25^{o}C • Greater flexibility for storage and travel

1 Reported 25-50% conjunctivitis: Wollenberg et al (2018), Conjunctivitis occurring in atopic dermatitis patients treated with dupilumab-clinical characteristics and treatment.

ASLAN003

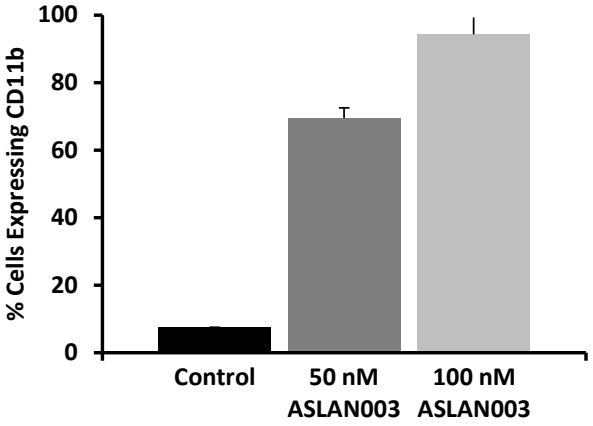
ASLAN003 is an orally active, potent inhibitor of DHODH

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

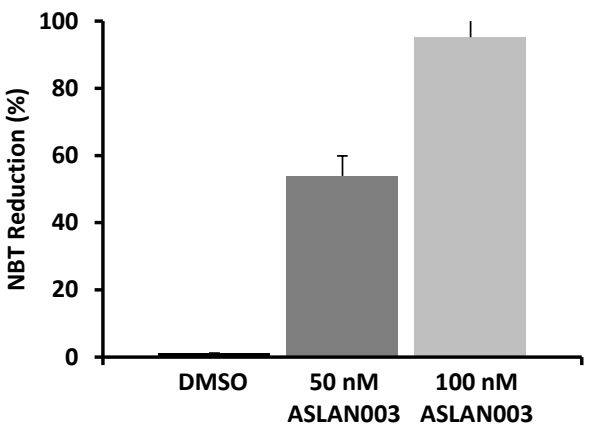


ATRA differentiates blasts in up to 15% of AML patients with >90% CR

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



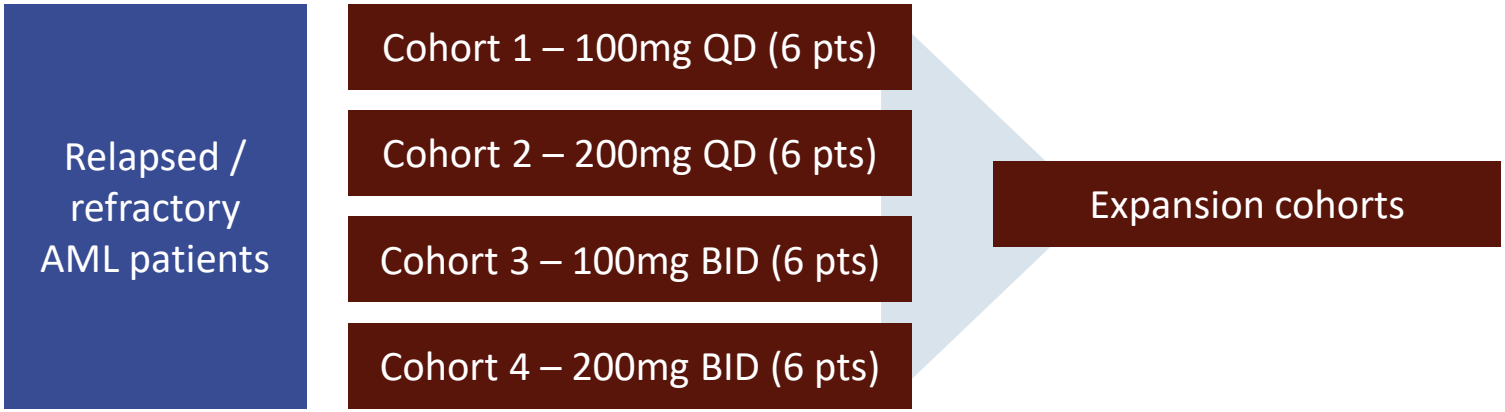
Formation of active granules in AML blast cell line THP-1 with ASLAN003



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

Phase 2 in relapsed / refractory AML

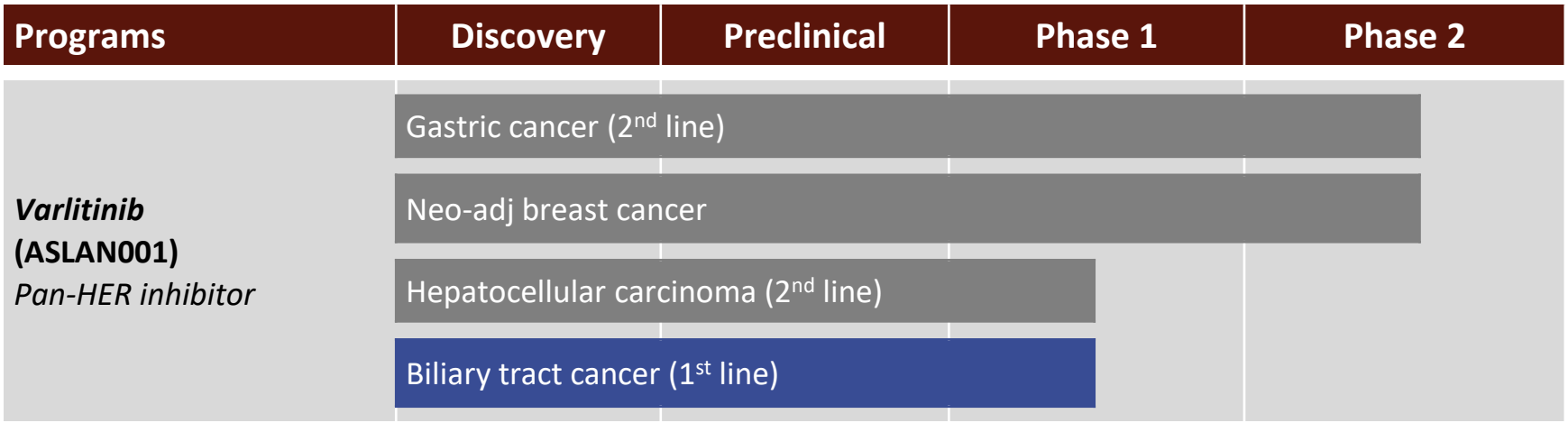
- 24 patients enrolled in dose escalation cohorts
- 10 patients on treatment for more than 2 months (efficacy evaluable), of which:
  - Fall in peripheral blood blast cells in all evaluable patients (median >50%)
  - 1 PR (reduction in bone marrow blast cells from 54% at baseline to 24%)
  - Evidence of differentiation syndrome seen in some patients
- Well-tolerated, most commonly occurring adverse events: leukocytosis (2 patients grade 3-4), nausea, abd pain and rash



Dose escalation
N = 24
Primary endpoints: CR, CRi rate

Other portfolio

Varlitinib is a potent oral, reversible pan-HER inhibitor

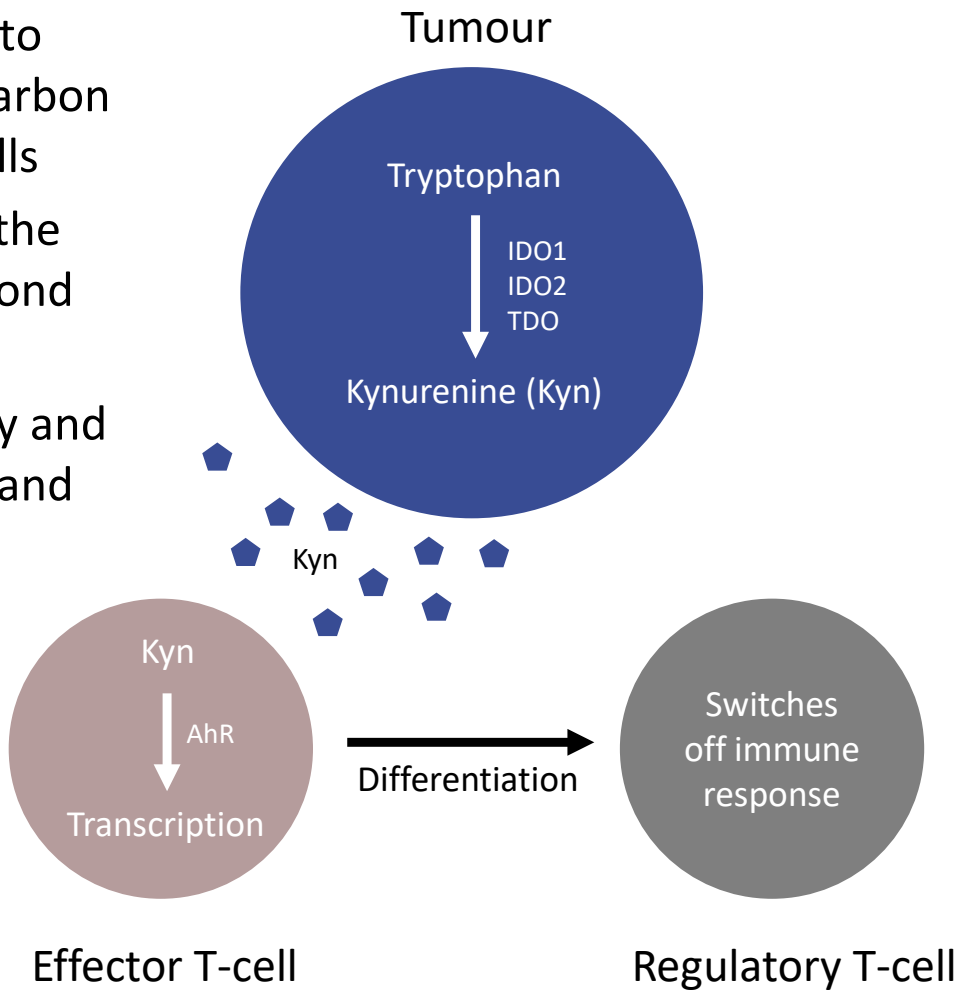


Competitive efficacy	Increase activity over standard of care: 44% ORR in 1st line BTC, 60% ORR in 2nd line HER2+ and 60% pCR in neoadj breast cancer.
Differentiated safety	Substantially lower GI tox compared to other pan-HER inhibitors. 4% drug-related grade 3/4 diarrhoea across all studies.
Efficacy in subgroups of BTC	Pre-specified subgroups in phase 2 TreeTopp study and China Jadetree study show possible benefit. Further analysis ongoing

Investigator initiated trial

We are developing AhR antagonists in our majority-owned subsidiary JAGUAHR Therapeutics

- Tumours break down tryptophan into Kyn, which binds to the aryl hydrocarbon receptor (AhR) and suppresses T-cells
- The Kyn pathway is used to ensure the immune system does not over-respond to threats
- Tumours have hijacked this pathway and frequently overexpress IDO1, IDO2 and TDO
- Established a JV with Bukwang, who are investing up to $5M to deliver IND-ready compounds
- ASLAN retains buy-back option on assets



Financials

Financials

Exchange / ticker	US – NASDAQ: ASLN Taiwan – TPEx: 6497
Shares outstanding	190.0M (equivalent to 38.0 ADSs)
Net loss	US$ 5.2M (for 3Q 19)
Cash balance	US$ 10.4M (unaudited, end of Nov 19)
Recent financing	US$ 14.7M raised in Dec 2019 (NASDAQ follow-on)