Company presentation

February 2020

NASDAQ: ASLN
TPEx: 6497

ASLAN PHARMACEUTICALS

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Clinical-stage biopharma with immunology and oncology focus

Portfolio led by ASLAN004, a monoclonal antibody targeting IL-13Rα1, that has the potential to be best-in-disease for atopic dermatitis and asthma

Programs	Discovery	Preclinical	Phase 1	Phase 2	Anticipated milestones
Immunology					
ASLAN004 *IL-4/IL-13* *Receptor inhibitor*	Atopic dermatitis Asthma				• MAD interim data early 2020 • MAD completion 2H 20
Oncology[2]					
ASLAN003 *DHODH inhibitor*	AML				
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.

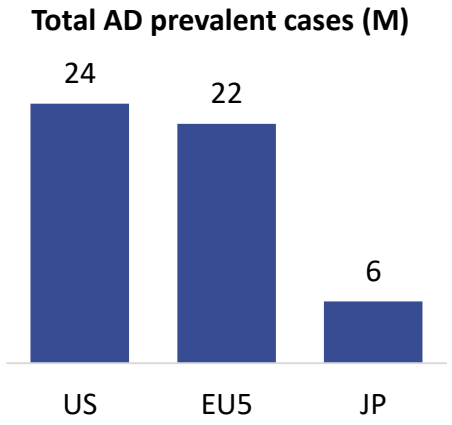
2 ASLAN completed a phase 2 trial of *varlitinib* in 2nd line biliary tract cancer in 2019. The trial did not meet its primary endpoints but exploratory analyses identified a sub-group of patients that appeared to respond to the drug. Further analysis of the data is ongoing.

ASLAN004

Atopic dermatitis (AD) is a chronic disease that can severely impact quality of life

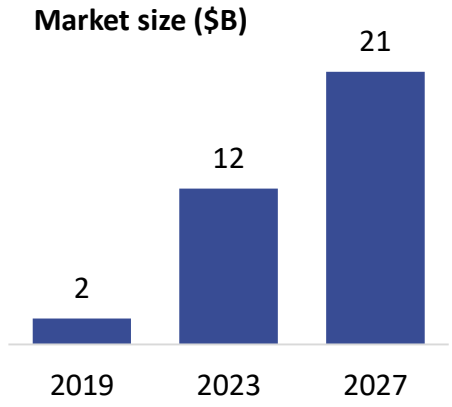
AD is a chronic inflammatory skin condition

- Atopic dermatitis is the most common form of eczema
- Characterised by red inflamed skin and severe daytime and night-time itching
- Over 200 million AD patients worldwide
  - Prevalence estimated at 1-3% of adults worldwide
- Up to 50% are moderate-to-severe patients



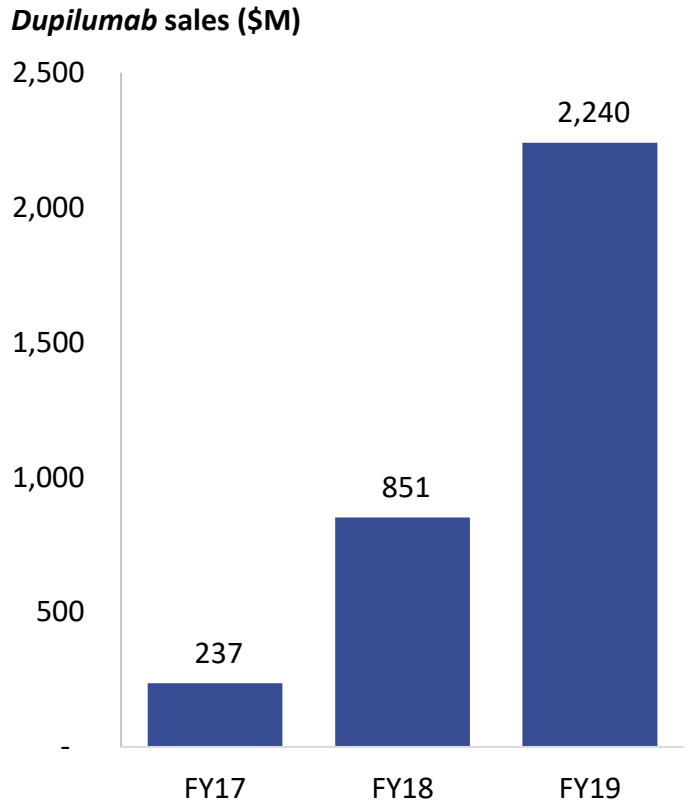
Substantial market opportunity

- Treatment options traditionally focused on topical corticosteroids
- *Dupilumab* (approved in 2017) is the only approved biologic therapy available
- Drugs in late stage development include *lebrikizumab* and JAK inhibitors
- Experience with biologics in psoriasis is driving rapid uptake in AD
- Market expected to exceed $20B by 2027



Dupilumab has advanced the standard of care for AD, but a significant unmet need remains

- Launch of *dupilumab* in 2017 helped drive a large market for systemic AD therapy
- *Dupilumab* establishing dual blockade of IL4/IL13 biologic therapy as the new standard of care (broad efficacy, no serious adverse effects)
- Sanofi intends to grow sales to over $11B
- However, there remains a significant unmet need
  - Only 35% of patients treated with *dupilumab* achieved an optimal response[1]
  - Real world data suggests 25% to 50% of patients report symptoms of conjunctivitis[2]
  - Opportunity to improve dosing convenience



1 Spherix (2018) Atopic dermatitis ATU study

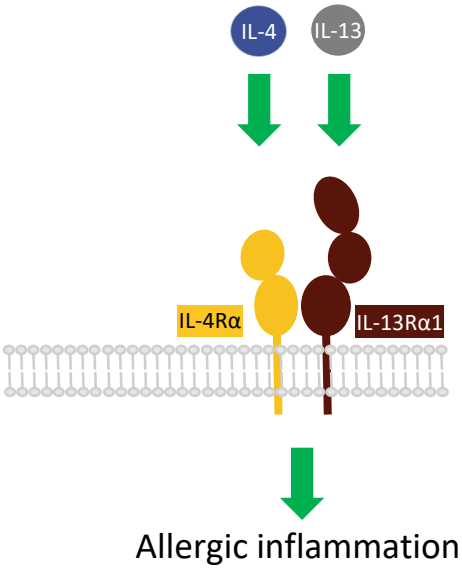
2 Reported 25-50% conjunctivitis: Wollenberg et al (2018), Conjunctivitis occurring in atopic dermatitis patients treated with dupilumab-clinical characteristics and treatment.

ASLAN004 has the potential to be best-in-disease

IL-13Rα1 inhibitor	ASLAN004 is the only monoclonal antibody targeting IL-13Rα1, and has the potential to be best-in-disease for atopic dermatitis and asthma
Validated mechanism	Targets the same pathway and receptor complex as *dupilumab*
Targeting differentiated profile	Potential for improved efficacy, fewer adverse events (conjunctivitis), monthly dosing
SAD completed	Phase 1 SAD in healthy volunteers completed. No significant adverse events noted to date. Profile may allow for monthly dosing.
MAD/PoC ongoing	Currently recruiting second cohort in MAD / PoC study. Early efficacy data encouraging. Expected completion in 2H 20.

ASLAN004 is the only drug besides *dupilumab* to provide dual IL-4 / IL-13 blockade

- Both IL-4 and IL-13 can activate the Type II receptor leading to allergic inflammation
- *Dupilumab* and ASLAN004 block the receptor, blocking signalling through both IL-4 and IL-13 at the same time
- Drugs like *lebrikizumab* and *tralokinumab* only block signalling through IL-13



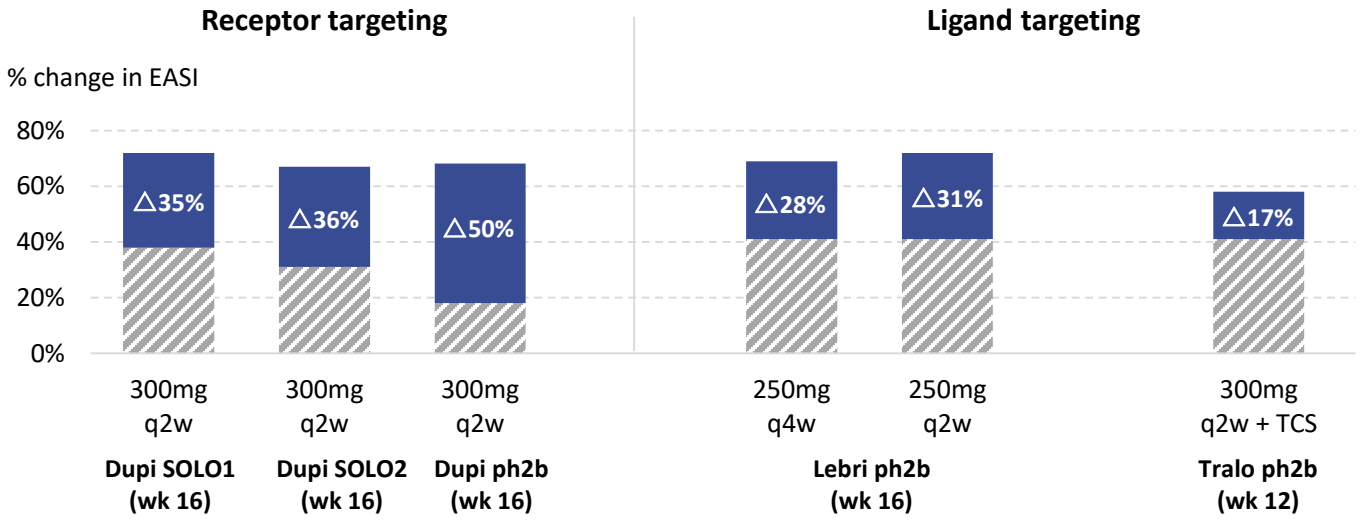
Type II receptor
Comprises two subunits: *Dupilumab* can bind IL-4Rα, ASLAN004 can bind IL-13Rα1. Binding either subunit will block receptor activation.

Dual-blockade appears to be more effective

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

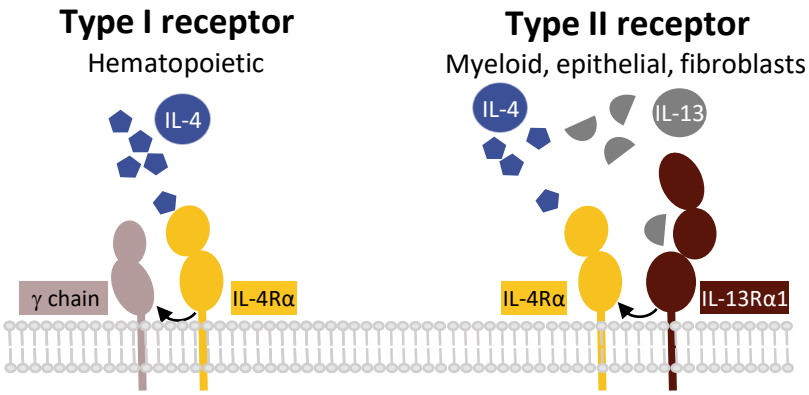
IL4/IL13 ligand targeting		
Lebrikizumab	IL-13	Discontinued in asthma, phase 3 in atopic dermatitis
Tralokinumab	IL-13	Discontinued in asthma, phase 3 in atopic dermatitis
Altrakincept	IL-4	Discontinued
Pascolizumab	IL-4	Discontinued

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



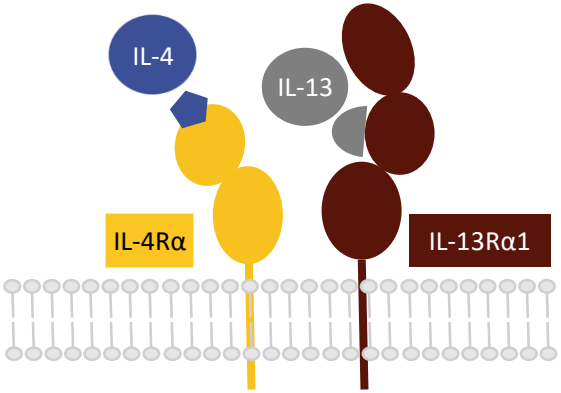
Unlike *dupilumab*, ASLAN004 does not block the Type I receptor

- Type I receptor is the early trigger of Th2 cell differentiation at the start of atopy
- Type II receptor is broadly expressed and drives allergy, so efficacy is driven by the Type II receptor
- Implications of blocking the Type I receptor unclear, but could explain increased risk of conjunctivitis with *dupilumab*



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

Receptor	Ligand	Kd (nM)	Comments
IL-13Rα1	IL-13	30[1]	ASLAN004 has a 60 fold higher affinity for receptor than IL-13
IL-13Rα1	ASLAN004	0.5	
IL-4Rα	IL-4	0.1[1]	*Dupilumab* only has a 3 fold higher affinity for receptor than IL-4
IL-4Rα	*Dupilumab*	0.03	

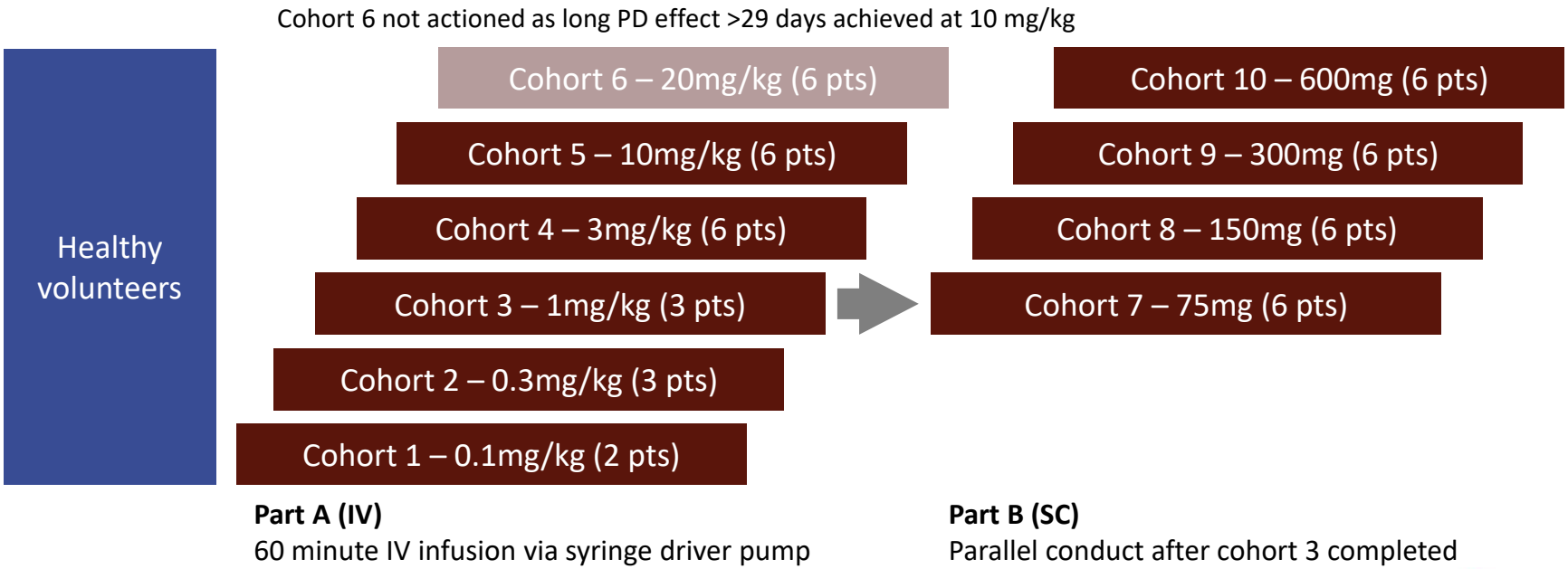


ASLAN004 offers a greater affinity difference between ligand and receptor binding which may translate to lower required concentration *in vivo*

1 Kraich et al (2006) BMC Biology 4:13

Phase 1 SAD study in healthy volunteers completed

- Well tolerated at all doses when administered IV and subcutaneous (SC)
  - 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
- Concentration 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 (SC) 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 – 200mg QW (ASLAN004 N = 6, placebo N = 2)

Cohort 2 – 400mg QW (ASLAN004 N = 6, placebo N = 2)

Cohort 3 – 600mg QW (ASLAN004 N = 6, placebo N = 2)

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

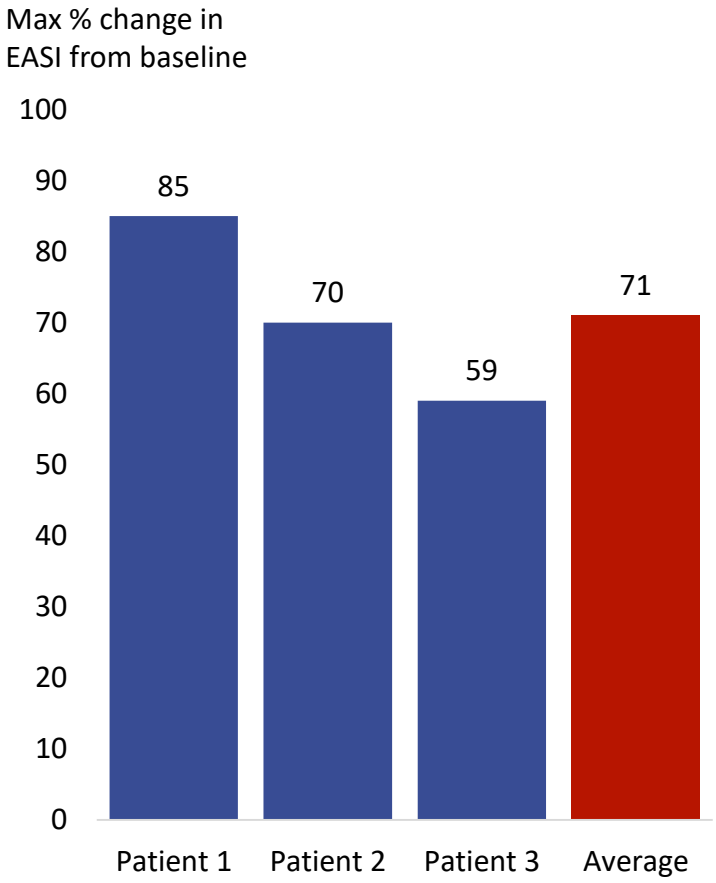
Primary endpoints are safety and tolerability

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

Study has 80% power to detect a 39% improvement in the percentage change in EASI score from baseline based on a one-sided 5% significance level

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
- Currently recruiting 2nd dose 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



ASLAN004 is a first-in-class IL-13R antibody and has the potential to be best-in-disease

Efficacy	• Dual signaling blockade through IL-4 and IL-13 • Low concentration needed for full target inhibition, which may translate to better efficacy • Encouraging early signs of efficacy in MAD / PoC study
Dosing	• Complete inhibition of pSTAT6 to 29 days after a single IV dose • Potential for 4 weekly dosing
Safety	• No conjunctivitis seen to date in phase 1 • No significant injection site reactions to date

Financials

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Shares outstanding	Overall	NASDAQ: ASLN	TPEx: 6497 (Taiwan)
Ordinary shares	190M	59M	130M
ADS equivalent (5:1)	38M	12M	26M
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)		