

A woman with dark skin and curly hair tied up, smiling and looking to the right. She has visible vitiligo patches on her face and hands.

# CLINUVEL

## Afamelanotide for vitiligo

CLINUVEL's Phase III program:  
setting a new standard of care

9 November 2023

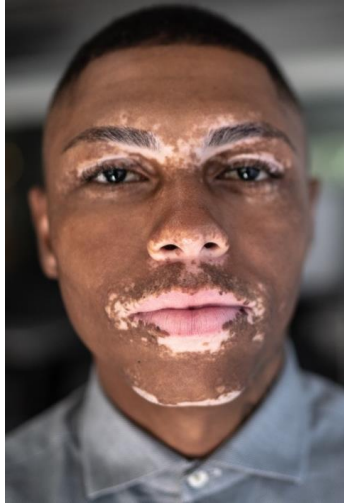
ASX	CUV
Börse Frankfurt	UR9
Level 1 ADR	CLVLY

# Forward-looking statement

This release contains forward-looking statements, which reflect the current beliefs and expectations of CLINUVEL's management. Statements may involve a number of known and unknown risks that could cause our future results, performance, or achievements to differ significantly from those expressed or implied by such forward-looking statements. Important factors that could cause or contribute to such differences include risks relating to: our ability to develop and commercialise pharmaceutical products; the COVID-19 pandemic and/or other world, regional or national events affecting the supply chain for a protracted period of time, including our ability to develop, manufacture, market and sell biopharmaceutical products; competition for our products, especially SCENESSE® (afamelanotide 16mg), CYACÊLLE, PRÉNUMBRA® or NEURACTHEL®; our ability to achieve expected safety and efficacy results in a timely manner through our innovative R&D efforts; the effectiveness of our patents and other protections for innovative products, particularly in view of national and regional variations in patent laws; our potential exposure to product liability claims to the extent not covered by insurance; increased government scrutiny in either Australia, the U.S., Europe, Israel, China and Japan of our agreements with third parties and suppliers; our exposure to currency fluctuations and restrictions as well as credit risks; the effects of reforms in healthcare regulation and pharmaceutical pricing

and reimbursement; that the Company may incur unexpected delays in the outsourced manufacturing of SCENESSE®, CYACÊLLE, PRÉNUMBRA® or NEURACTHEL® which may lead to it being unable to supply its commercial markets and/or clinical trial programs; any failures to comply with any government payment system (i.e. Medicare) reporting and payment obligations; uncertainties surrounding the legislative and regulatory pathways for the registration and approval of biotechnology and consumer based products; decisions by regulatory authorities regarding approval of our products as well as their decisions regarding label claims; our ability to retain or attract key personnel and managerial talent; the impact of broader change within the pharmaceutical industry and related industries; potential changes to tax liabilities or legislation; environmental risks; and other factors that have been discussed in our 2023 Annual Report. Forward-looking statements speak only as of the date on which they are made, and the Company undertakes no obligation, outside of those required under applicable laws or relevant listing rules of the Australian Securities Exchange, to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise. More information on preliminary and uncertain forecasts and estimates is available on request, whereby it is stated that past performance is not an indicator of future performance.

# Vitiligo



Autoimmune disorder leads to loss of melanocytes

Severe impact on patient quality of life, highest impact in skin of colour

Lack of effective therapies, no pharmaceutical therapy >10% BSA

---

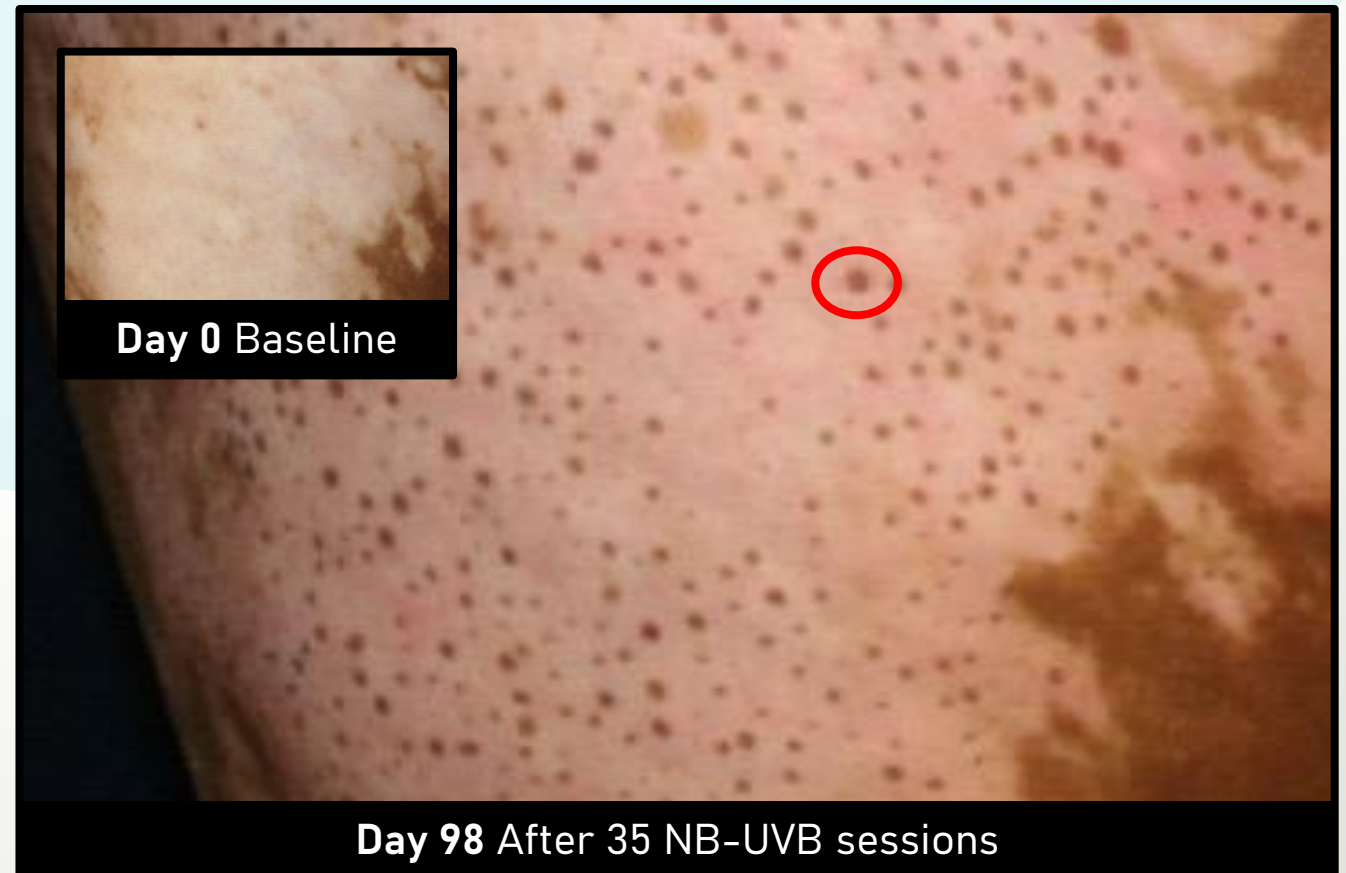
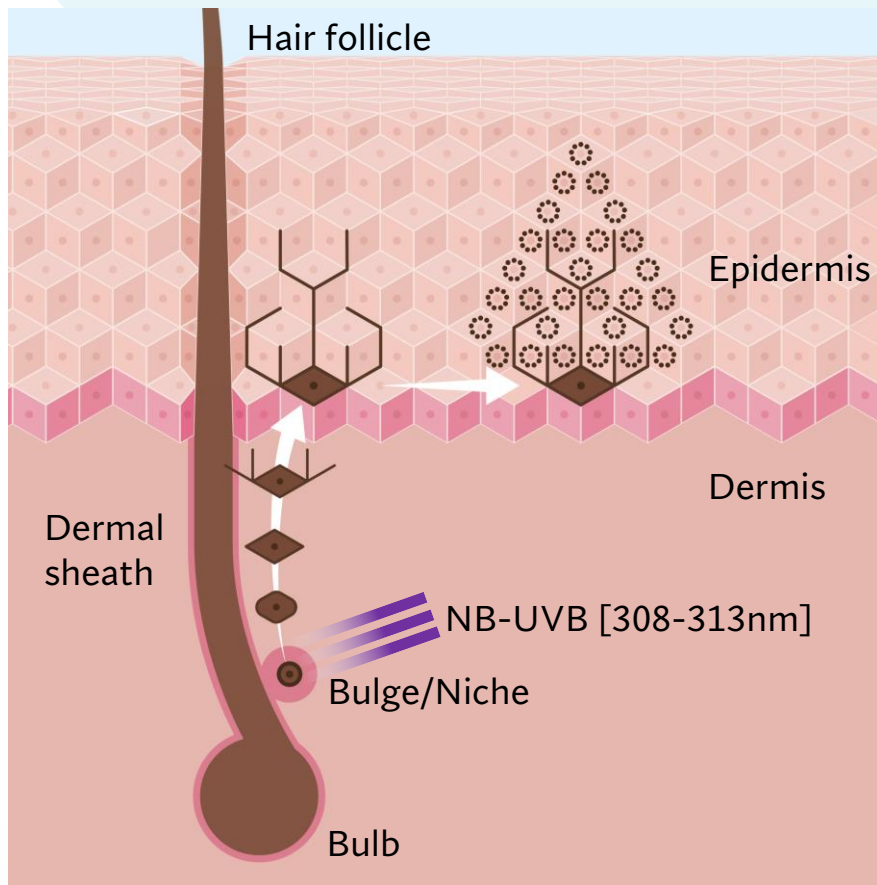
*“They think it’s cosmetic, but it’s more for me. I am a lifelong colored person. I feel like I lost my identity.”*

Patient testimony from FDA vitiligo workshop, March 2021

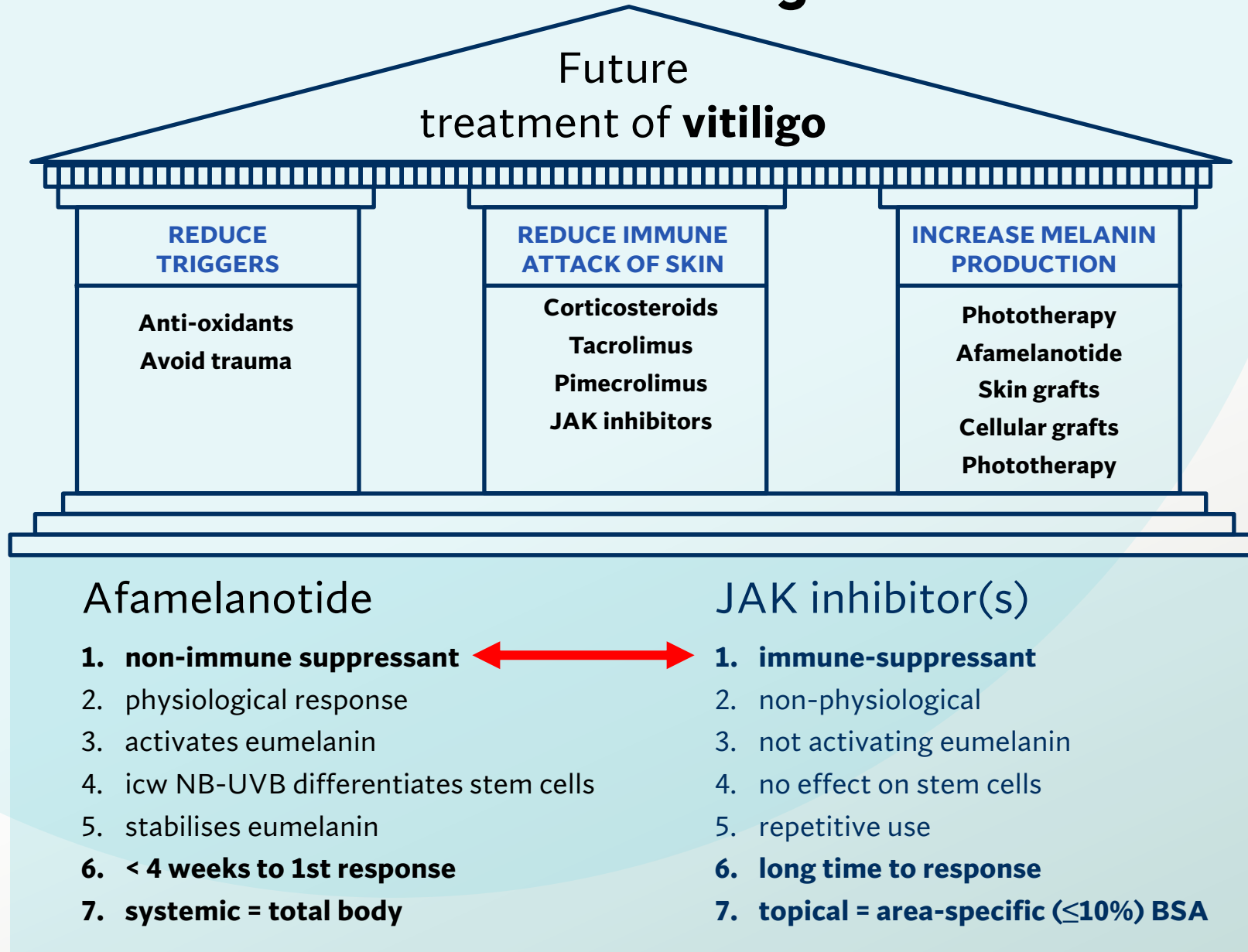
# NB-UVB – follicular repigmentation

NB-UVB differentiates stem cells in the “niche” of the hair follicle to become melanoblasts.

Melanoblasts differentiate and become fully functioning melanocytes, capable of producing melanin once activated by alpha-melanocyte-stimulating-hormone ( $\alpha$ -MSH).



# Presented at AAD 2023 - Vitiligo Future Treatment



# Vitiligo - active R&D landscape

## Active and ongoing clinical development programs

COMPANY	TREATMENT	PHASE II	PHASE III	APPROVED
<b>JAK inhibitors = immune suppression</b>				
Incyte	Ruxolitinib (topical JAK 1/2)	n=157 n=30* (subset)	n=674 (2 trials)	patients 12 years and older
	Povorcitinib (oral JAK 1)	n=171	n=888 (2 planned)*	
Pfizer	Ritlecitinib (oral JAK 3)	n=364	n=600*	
Abbvie	Upadacitinib (oral JAK 1)	n=160*		
Eli Lilly	Baricitinib (oral JAK 1/2)	n=48*		
<b>Other approaches</b>				
CLINUVEL	Afamelanotide +/- NB-UVB	n=58 (combination) n=6* (monotherapy)	n=200* (combination) n=200 (planned)	
AstraZeneca	Anifrolumab (monoclonal antibody) + NB-UVB	n=48*		
Pfizer	Crisaborole & PF-07038124 (phosphodiesterase-4 inhibitors; PDE-4i) +/- NB-UVB	n=64*		
Celgene <sup>1</sup>	Apremilast (PDE-4i)	n=77		
UH Bordeaux	Methotrexate <sup>2</sup>	n=44*		
Almirall <sup>1</sup>	Undisclosed WnT			
Avita	Autologous Cell Harvesting Device	n=100*		Adults

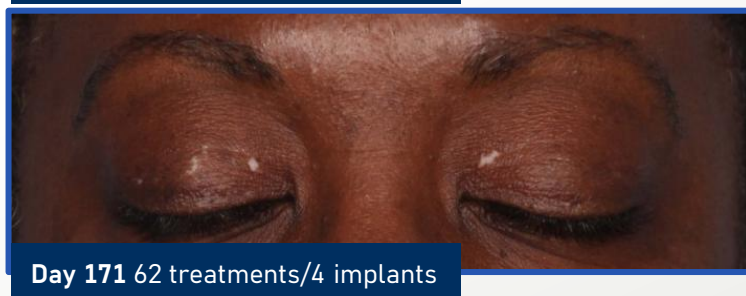
\* Study in planning/recruiting/ongoing | <sup>1</sup> Program status undisclosed | <sup>2</sup> Immunosuppressant | Early-stage programs excluded | Sources: ClinicalTrials.gov, EUDRACT/CITIS

# CUV102 study results

## Results: CUV102 (Phase IIa n=56)

<b>Treatment (6 months)</b>	SCENESSE <sup>®</sup> +NB-UVB	vs.	NB-UVB
<b>Repigmentation</b>	VASI		p=0.025
<b>Median time to repigmentation (trunk)</b>	41 days vs 59.5 days		p=0.082
<b>Fitzpatrick Skin Types IV-VI subset analyses (n=34)</b>			
<b>Repigmentation</b> Days 56-168	VASI		p<0.001
<b>Maintenance of repigmentation</b> Baseline vs day 336	VASI		p=0.047

# CUV102 Phase II study results





# Vitiligo – global Phase III study (CUV105)

	CLINUVEL CUV105 Phase III	Incyte Phase III program <sup>1</sup>	Pfizer pivotal Phase III oral JAK inhibitor <sup>2</sup>
Study population	N=200, adults and adolescents (≥12 years) highest unmet need: darker skin (Fitzpatrick IV-VI)	N=647, adults and adolescents (≥12 years)	
Inclusion	≥0.3% BSA with facial vitiligo: T-VASI ≥0.3 & F-VASI ≥0.3	≥0.5% facial vitiligo, ≥3% BSA: T-VASI ≥3 & F-VASI ≥0.5. Total BSA ≤10	
Primary endpoint	rate of repigmentation of total body surface (T-VASI50)	F-VASI response at week 24	proportion of participants achieving F-VASI75
Secondary endpoint/s	evaluate repigmentation of the face, maintenance of repigmentation	evaluate repigmentation of the face, total repigmentation (T-VASI), noticeability	proportion of participants achieving T-VASI50
Randomisation	1:1 to SCENESSE® + NB-UVB vs NB-UVB monotherapy	2:1 to 1.5% topical ruxolitinib vs placebo, twice daily	
Treatment duration	20-week treatment phase, six-month follow up	24-week treatment phase, followed by up to 28 weeks of open label active treatment	
Sites	expert treatment centres globally	132 North America & Europe	
Status	12-month recruitment (to October 2024)	Product approved (FDA priority review)	

**“Once on the market, SCENESSE® will clinically become the pigment booster”**

Vitiligo Expert Panel member

# Path to market - afamelanotide

**CUV102**  
+NB-UVB n = 56



**CUV103**  
+NB-UVB n = 21



**CUV104**  
monotherapy n = 6



**CUV105**  
+NB-UVB n = 200

2023



**CUV107**  
+NB-UVB n = 200

2024



**FDA submission<sup>1</sup> 2026**

**Step 1 >15,200 doses afamelanotide administered<sup>2</sup>**

- Safety profile accepted

**Step 2 NB-UVB combination**

- program planning resulted in savings US\$75 – \$145M

**Step 3 2022 FDA – precedent for NB-UVB as combination therapy**

**Step 4 2022 Insurers providing reimbursement codes**

**Step 5 Project finance - clinical trials A\$77m**

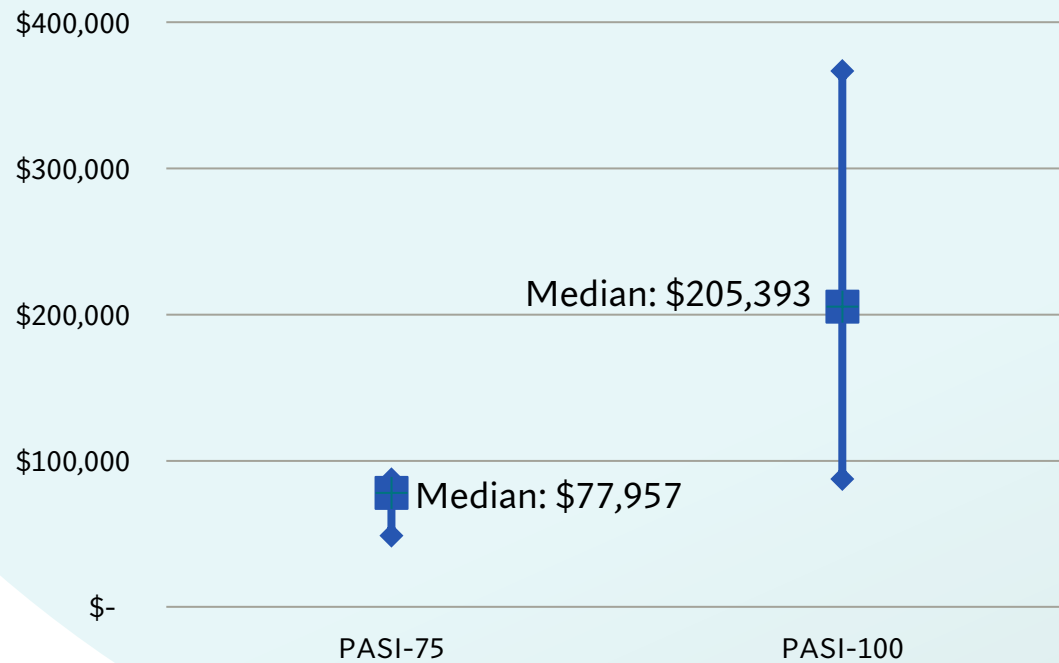
**Step 6 2023 Vitiligo Expert Panel**

**Step 7 Train & accredit 120 US centres pre-marketing**

# Pricing & reimbursement

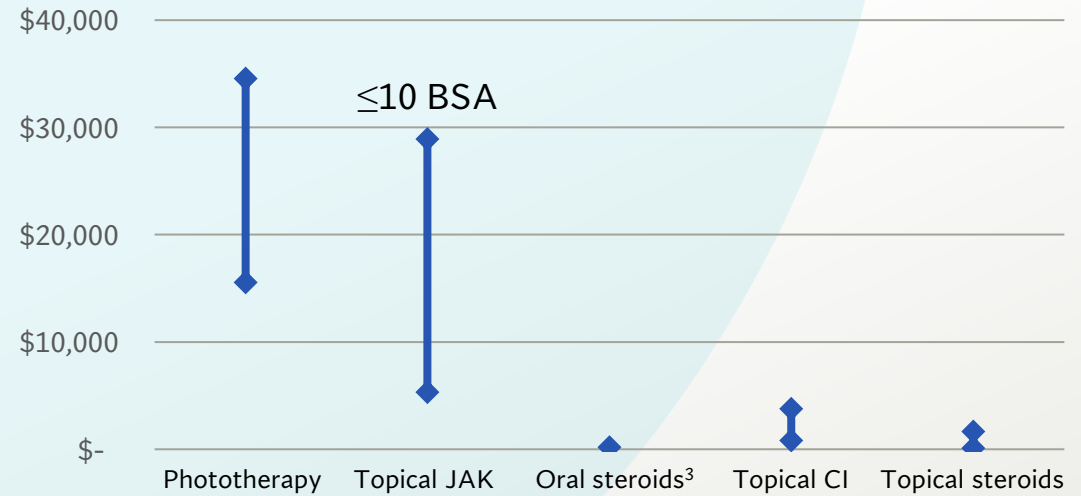
## Evolving landscape in dermatology

**Annual costs of successful moderate-severe psoriasis biologic treatment (\$US, Feldman et al, 2019)**



- Annual Medicare out of pocket costs range from \$4,423-6,590<sup>1</sup>
- >90% of US insurance plans require PA for psoriasis biologics

**Annual costs for vitiligo therapies (US\$)<sup>2</sup>**



**Review of 25 US insurers' policies for vitiligo, 2023**

Treatment	Enable access	Expressly deny	No policy/ other
<b>NB-UVB</b>	11	3	11
<b>Excimer laser</b>	6	8	11
<b>JAK inhibitor</b>	17*	1	7

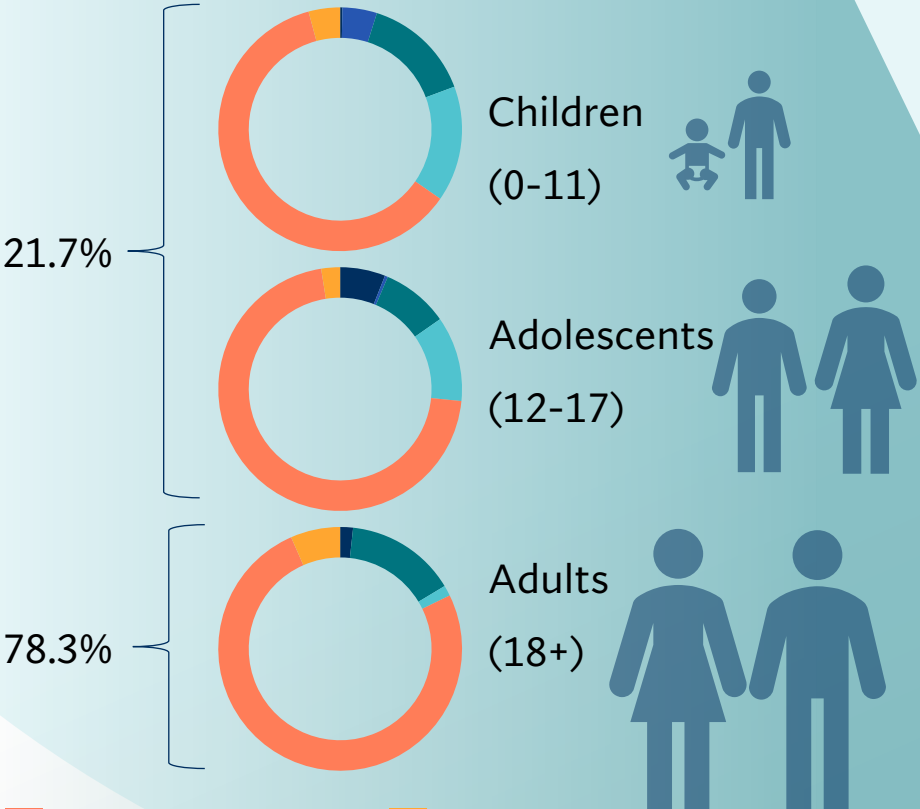
\*All require Prior Authorization/ specialty drug. "Step therapy", quantity limits and ≤10% BSA restrictions common.

<sup>1</sup> Pourali et al (2021). <sup>2</sup> CLINUVEL research. Treatment costs vary according to frequency and intensive of treatment. <sup>3</sup> Oral steroids are only used in low doses over a 4-month dosing window. CI: calcineurin inhibitors

# North American vitiligo population

2022 population: 333,287,557 (USA), 39,566,248 (Canada)

## Demographics (USA)



Estimated population  
Fitzpatrick Skin Types IV-VI

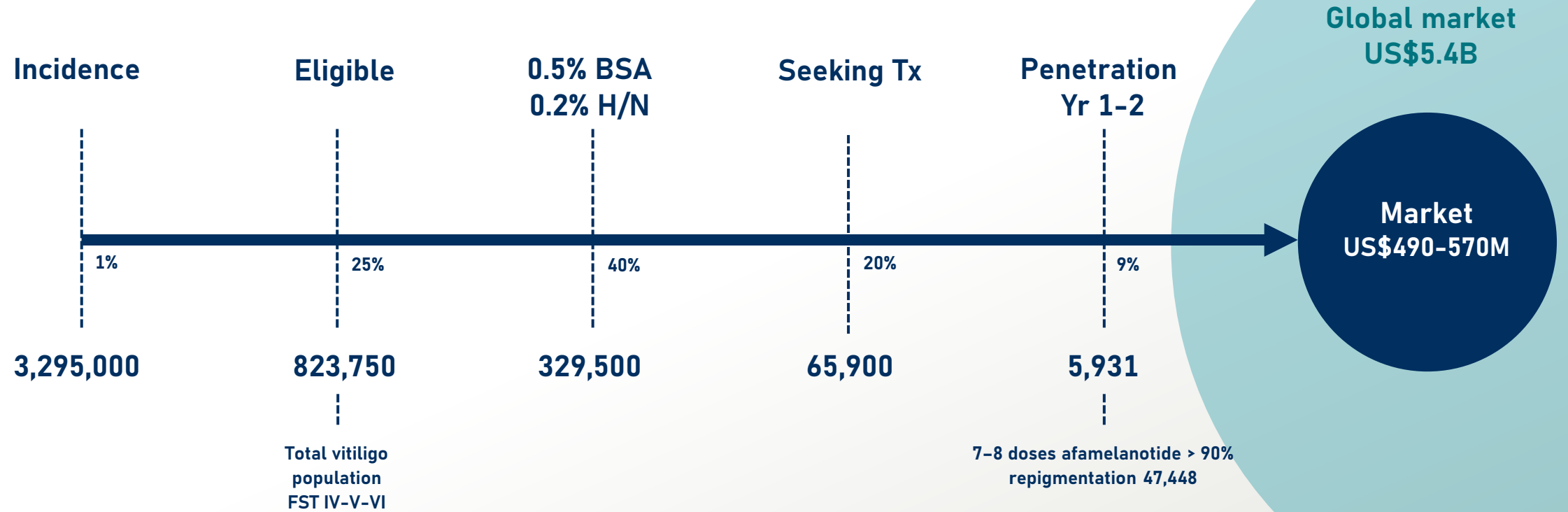
~22%

Vitiligo prevalence 1%

823,750 patients

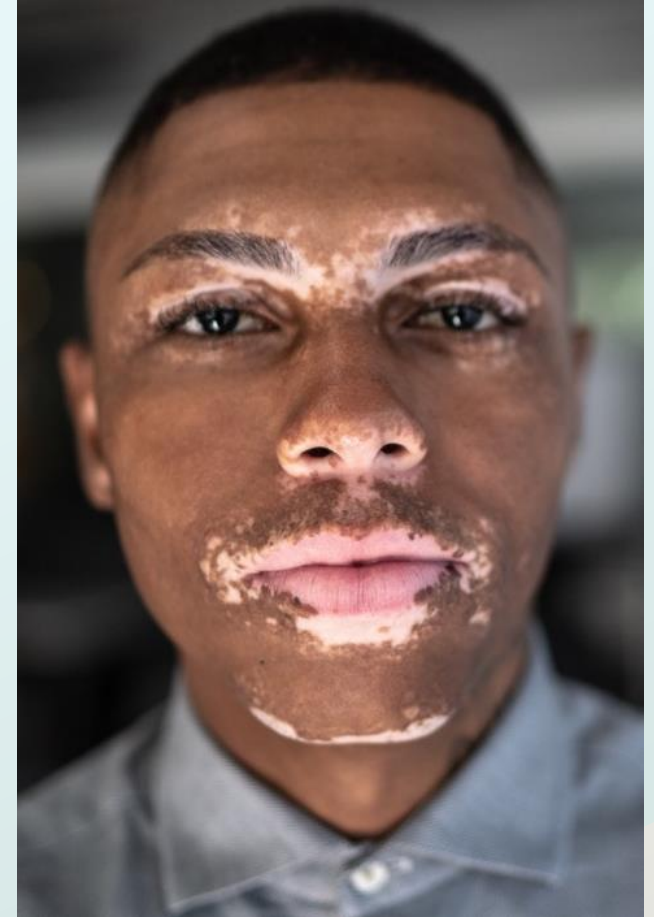
Adapted from US Census data

# Addressable market – North America



# Conclusions

- I. Vitiligo has a severe impact on patients' quality of life
- II. Current treatment options limited, partially effective, clinically frustrating
- III. SCENESSE® offers a systemic “pigmentary booster” effect without suppressing the immune system
- IV. Phase III CUV105 study – SCENESSE® + NB-UVB vs NB-UVB monotherapy
  - a. FST IV-VI, adolescents and adults
  - b. repigmentation of body (T-VASI), facial lesions (F-VASI)
  - c. n=200, **first patient treated (October 2023)**
  - d. global recruitment at expert treatment centres
- V. Path to highest unmet need = North-American addressable market US\$490M p/a



# References and further reading

Further details on the CUV105 study are available on CLINUVEL's website, [www.clinuvel.com](http://www.clinuvel.com).

Bibeau, K., Ezzedine, K., Harris, J. E., Van Geel, N., Grimes, P., Parsad, D., Tulpule, M., Gardner, J., Valle, Y., Tlhong Matewa, G., LaFiura, C., Lindley, A., Ren, H., & Hamzavi, I. H. (2023). Mental Health and Psychosocial Quality-of-Life Burden Among Patients With Vitiligo: Findings From the Global VALIANT Study. *JAMA Dermatology*. <https://doi.org/10.1001/jamadermatol.2023.2787>

Blundell, A., Sachar, M., Gabel, C. K., & Bercovitch, L. G. (2021). The scope of health insurance coverage of vitiligo treatments in the United States: Implications for health care outcomes and disparities in children of color. *Pediatric Dermatology*, 38 Suppl 2, 79–85. <https://doi.org/10.1111/pde.14714>

Diotallevi, F., Gioacchini, H., De Simoni, E., Marani, A., Candelora, M., Paolinelli, M., Molinelli, E., Offidani, A., & Simonetti, O. (2023). Vitiligo, from Pathogenesis to Therapeutic Advances: State of the Art. *International Journal of Molecular Sciences*, 24(5), 4910. <https://doi.org/10.3390/ijms24054910>

Ezzedine, K., Sheth, V., Rodrigues, M., Eleftheriadou, V., Harris, J.E., Hamzavi, I.H., Pandya, A.G.; & Vitiligo Working Group. Vitiligo is not a cosmetic disease. (2015). *Journal of the American Academy of Dermatology*, 73(5):883-5. <https://doi.org/10.1016/j.jaad.2015.07.039>

Ezzedine, K., Grimes, P. E., Meurant, J. M., Seneschal, J., Léauté-Labrèze, C., Ballanger, F., Jouary, T., Taïeb, C., & Taïeb, A. (2015). Living with vitiligo: results from a national survey indicate differences between skin phototypes. *The British journal of dermatology*, 173(2), 607–609. <https://doi.org/10.1111/bjd.13839>

Grimes, P.E., Hamzavi, I., Lebwohl, M., Ortonne, J.P., & Lim, H.W. (2013). The efficacy of afamelanotide and narrowband UV-B phototherapy for repigmentation of vitiligo. *JAMA Dermatology*, 149(1):68-73. <https://doi.org/10.1001/2013.jamadermatol.386>

Karagaiah, P., Schwaertz, R. A., Lotti, T., Wollina, U., Grabbe, S., & Goldust, M. (2022). Biologic and

targeted therapeutics in Vitiligo. *Journal of Cosmetic Dermatology*, jocd.14770. <https://doi.org/10.1111/jocd.14770>

Lim, H.W., Grimes, P.E., Agbai, O, Hamzavi, I., Henderson, M., Haddican, M., Linkner, R.V., & Lebwohl, M. (2015). Afamelanotide and narrowband UV-B phototherapy for the treatment of vitiligo: a randomized multicenter trial. *JAMA Dermatology*, 151(1):42-50. <https://doi.org/10.1001/jamadermatol.2014.1875>

Passeron, T. (2021). Vitiligo: 30 years to put together the puzzle pieces and to give rise to a new era of therapeutic options. *Journal of the European Academy of Dermatology and Venereology: JEADV*, 35(11), 2305–2307. <https://doi.org/10.1111/jdv.17652>

Rosmarin, D., Soliman, A. M., & Li, C. (2023). Real-World Treatment Patterns in Patients with Vitiligo in the United States. *Dermatology and Therapy*, 13(9), 2079–2091. <https://doi.org/10.1007/s13555-023-00983-3>

Rosmarin, D., Passeron, T., Pandya, A. G., Grimes, P., Harris, J. E., Desai, S. R., Lebwohl, M., Ruer-Mulard, M., Seneschal, J., Wolkerstorfer, A., Kornacki, D., Sun, K., Butler, K., Ezzedine, K., & TRuE-V Study Group. (2022). Two Phase 3, Randomized, Controlled Trials of Ruxolitinib Cream for Vitiligo. *The New England Journal of Medicine*, 387(16), 1445–1455. <https://doi.org/10.1056/NEJMoa2118828>

Authorised for ASX release by the Board of Directors  
of CLINUVEL PHARMACEUTICALS LTD

Head of Investor Relations  
Mr Malcolm Bull, CLINUVEL PHARMACEUTICALS LTD

Investor Enquiries  
<https://www.clinuvel.com/investors/contact-us>

[www.clinuvel.com](http://www.clinuvel.com)

Level 11, 535 Bourke Street  
Melbourne - Victoria, Australia, 3000  
T+61 3 9660 4900 F+61 3 9660 4909

