

# **INTRODUCTION**

## **PREVALENCE AND PATHOPHYSIOLOGY OF ACNE VULGARIS**

**BEFORE YOU PROCEED: REFLECT BRIEFLY**

**IS ACNE VULGARIS ONE OF THE TOP 10**

**DISEASES?**

# THE RELEVANCE AND PREVALENCE OF ACNE VULGARIS

## ACNE IS IN THE TOP 10 OF THE MOST PREVALENT DISEASES WORLDWIDE<sup>1,2</sup>

According to the  
Global Burden of Skin Disease Study



Acne affects 85% of young adults aged 12-25 years<sup>3</sup>



Worldwide acne prevalence is 9%<sup>1</sup>



650 million people around the world are affected<sup>1</sup>



*An example of acne vulgaris<sup>a</sup>*

<sup>a</sup> Image kindly provided by Prof. Ochsendorf

1. Dreno B, et al. J Cosmet Dermatol. 2020;19:2201-11; 2. Hay RJ, et al. J Invest Dermatol. 2014;134(6):1527-34; 3. Lynn D, et al. Adol Health Med Ther. 2016;713-25

# ACNE NATURAL HISTORY

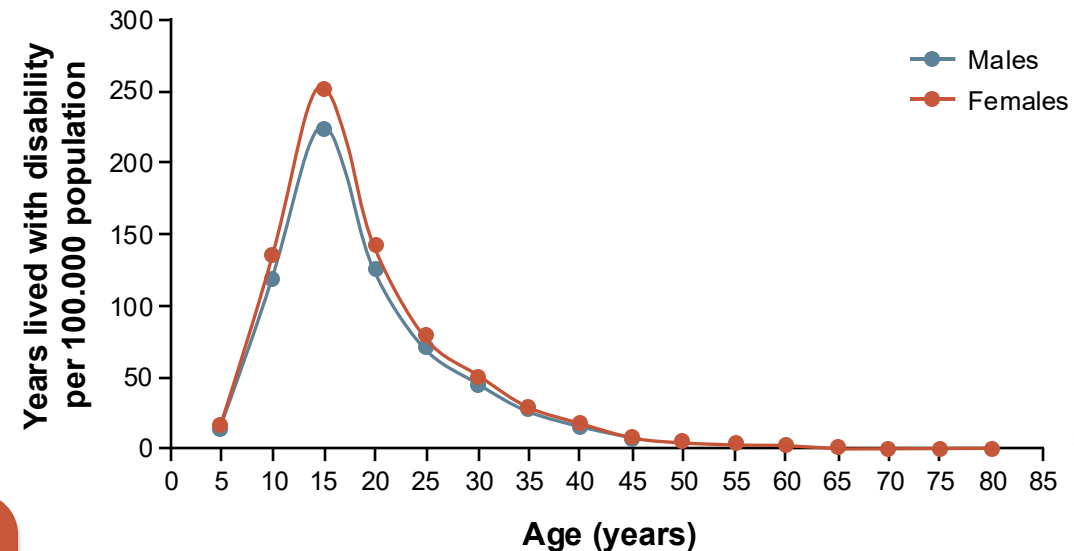
## A CHRONIC DISEASE, MOST COMMON IN ADOLESCENT AGE GROUP

- Acne can persist into, or develop during, adulthood. It affects:<sup>1,a</sup>
  - 64% of 20–29-year-olds
  - 43% of 30–39-year-olds
  - 3–5% of 40–49-year-olds have acne
- Mild acne may persist for a couple of years
- Severe acne can last for many years

Once regarded as a transient disease of teenagers, acne is now presenting **earlier** and **lasting longer**

### Burden of acne<sup>2</sup>

Acne vulgaris, 2010



<sup>a</sup> According to a survey of the German population

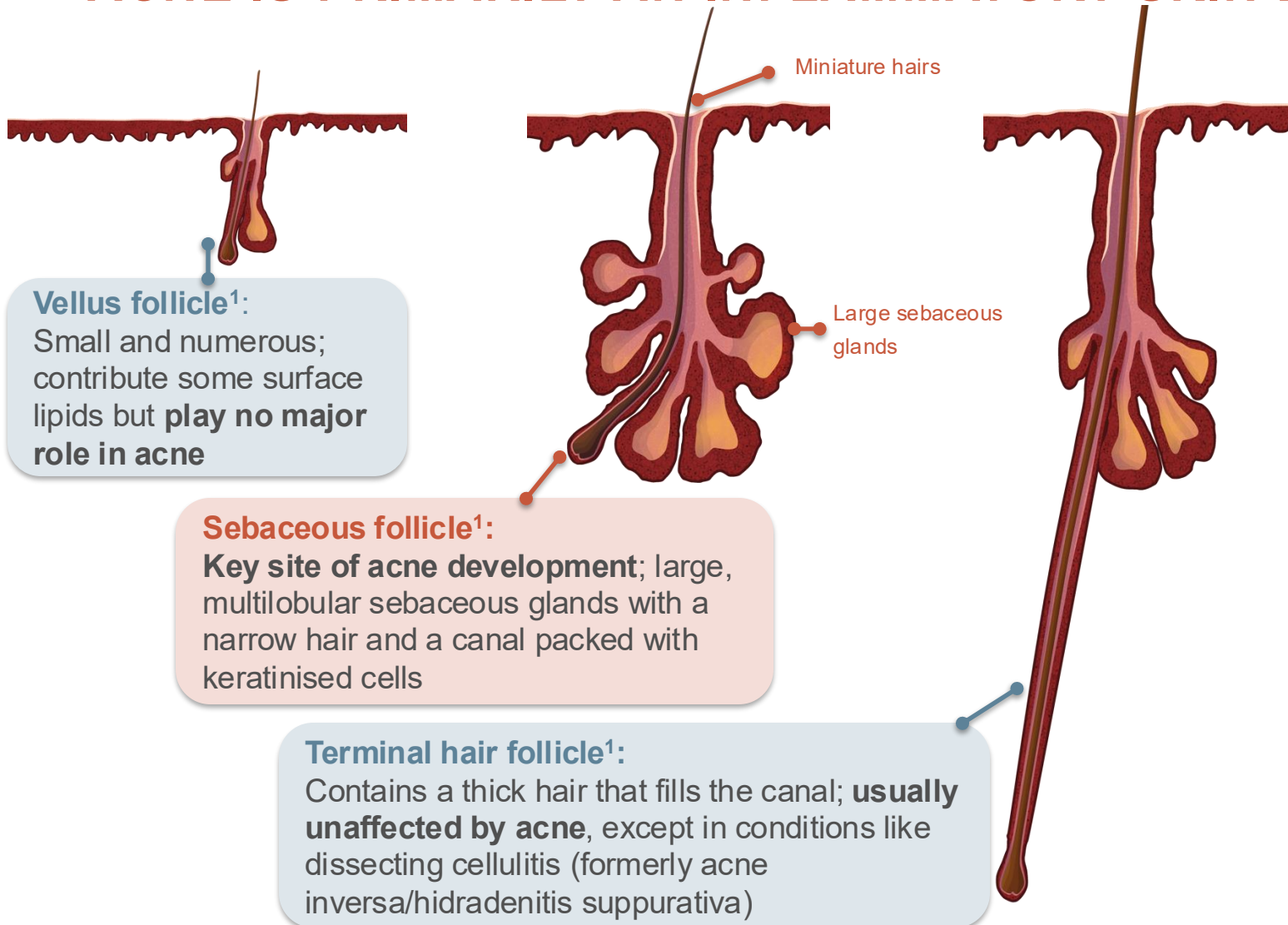
1. Scott-Emuakpor R, et al. Cureus. 2023;15:e38019; 2. Lynn DD, et al. Adolesc Health Med Ther. 2016;7:13-25

**BEFORE YOU PROCEED: REFLECT BRIEFLY**

**HOW FAMILIAR ARE YOU WITH THE KEY PATHOGENIC  
FACTORS IN THE DEVELOPMENT OF ACNE VULGARIS?**

# ACNE IS CENTRED AROUND THE PILOSEBACEOUS UNIT

## ACNE IS PRIMARILY AN INFLAMMATORY SKIN DISEASE



Chronic **inflammatory disease** of **sebaceous follicles** affects:<sup>2</sup>

- the face (99% of cases; highest density of sebaceous follicles)
  - back (60% of cases)
  - chest (15% of cases)
- Clinically very **heterogeneous** presentation<sup>2</sup>
    - different lesions, frequent seborrhoea

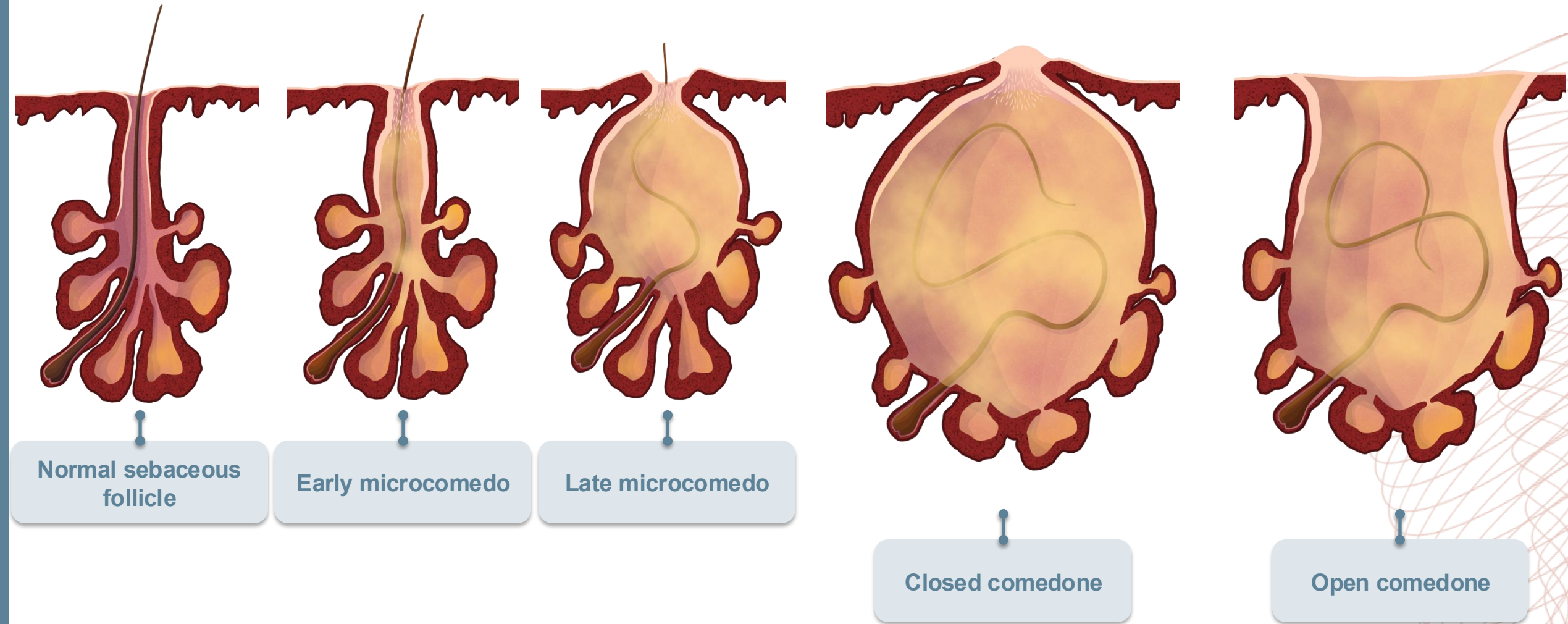
1. Plewig, G., Melnik, B. and Chen, W.C. (2019) Plewig and Kligman's Acne and Rosacea. 4th Edition, Springer, Berlin (chapter 1);

2. EDF. S3-Guideline for the Treatment of Acne (Update 2016). Available [here](#) (accessed May 2025)



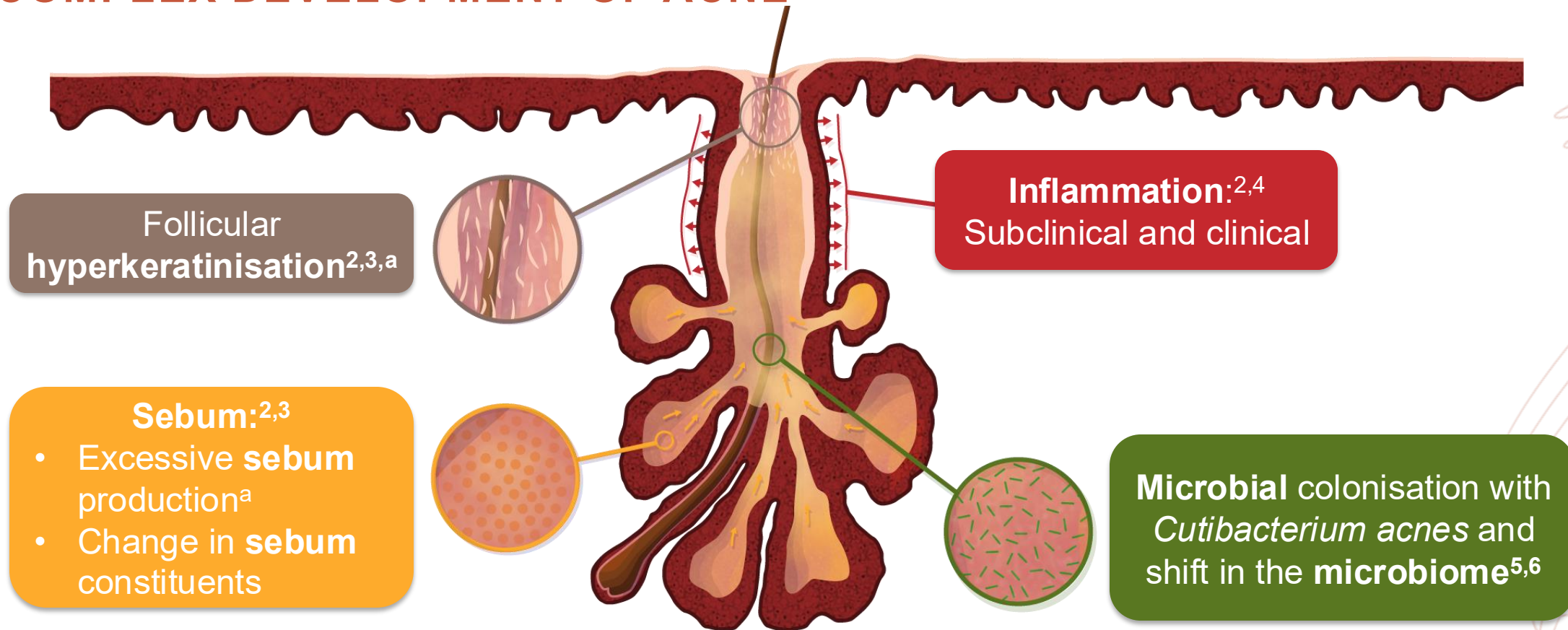
# COMEDOGENESIS

## THE LIFE HISTORY OF THE COMEDO



# PATHOPHYSIOLOGY OF ACNE VULGARIS

## THE FOUR PRIMARY PATHOGENIC FACTORS RESULTING IN THE COMPLEX DEVELOPMENT OF ACNE<sup>1,2</sup>



Number and size of the sebaceous follicles are genetically determined

<sup>a</sup> Follicular hyperkeratinisation and excessive sebum production are mediated by hormonal regulation<sup>3,5,6</sup>

1. Williams HC, et al. Lancet. 2012;379(9813):361-72; 2. Zaenglein AL. N Engl J Med. 2018;379(14):1343-52; 3. Gollnick H, et al. J Am Acad Dermatol. 2003;49(1 Suppl):S1-S37; 4. Zaenglein AL, et al. J Am Acad Derm. 2016;74:945-73.e33; 5. Del Rosso JQ, Kircik L. J Dermatolog Treat. 2024;35(1):2296855; 6. Kim HJ, Kim YH. Int J Mol Sci. 2024;25(10):5302