

Scalp care and hair care

CLARIANT[®]
Active
Ingredients

what is precious to you?

2

AppleStem, the scalp restorer for
healthier hair



AppleStem: Fuji '*Malus Domestica*' apple stem cells

Apple, a symbol of eternal youth and immortality

- **Scalp quality**

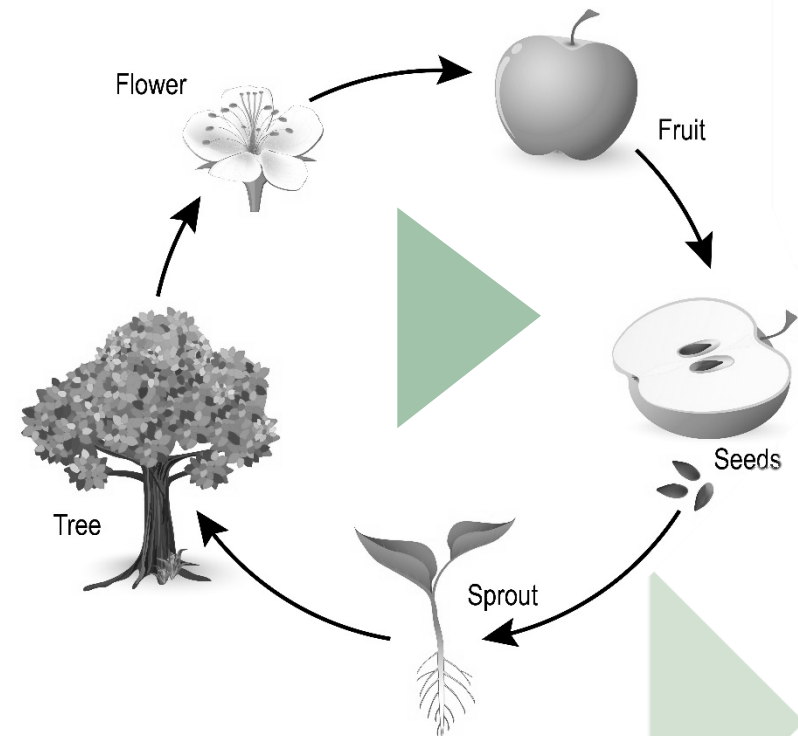
Contains essential nutrients, such as vitamin C¹ and copper which contribute to healthy scalp

- **Hair density**

Vitamin B2 located in apple acts as a hair-densifier factor²

→ **Maintains scalp healthy and youthful**

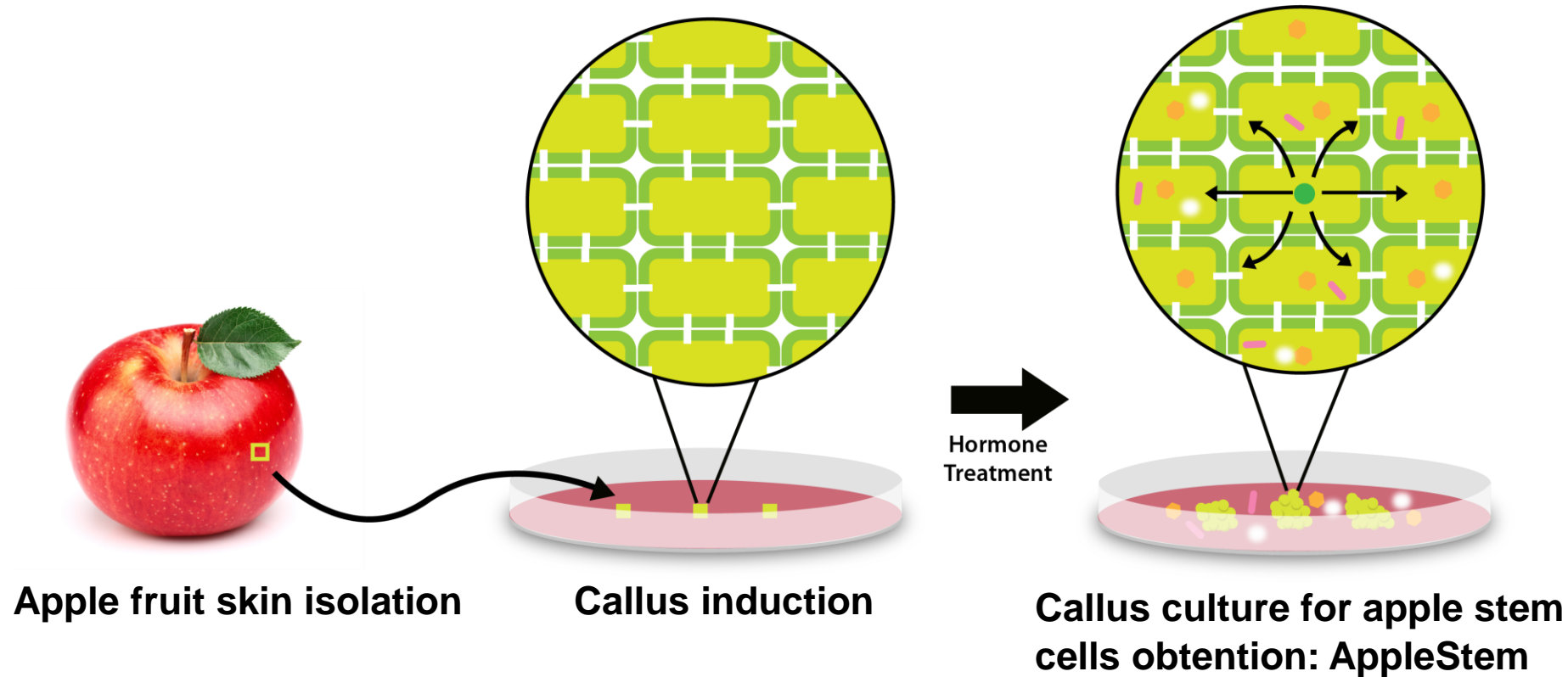
LIFE CYCLE OF AN APPLE TREE



¹Source: Juliet M. Pullar. Anitra C. Carr. Nutrients

²Source: Ayakao Kamimura. Phytomedicine

Culture of apple stem cells



- AppleStem contains apple stem cells which are full of **metabolites**
- Using a few quantity of plant to obtain a sustainable and renewable raw material

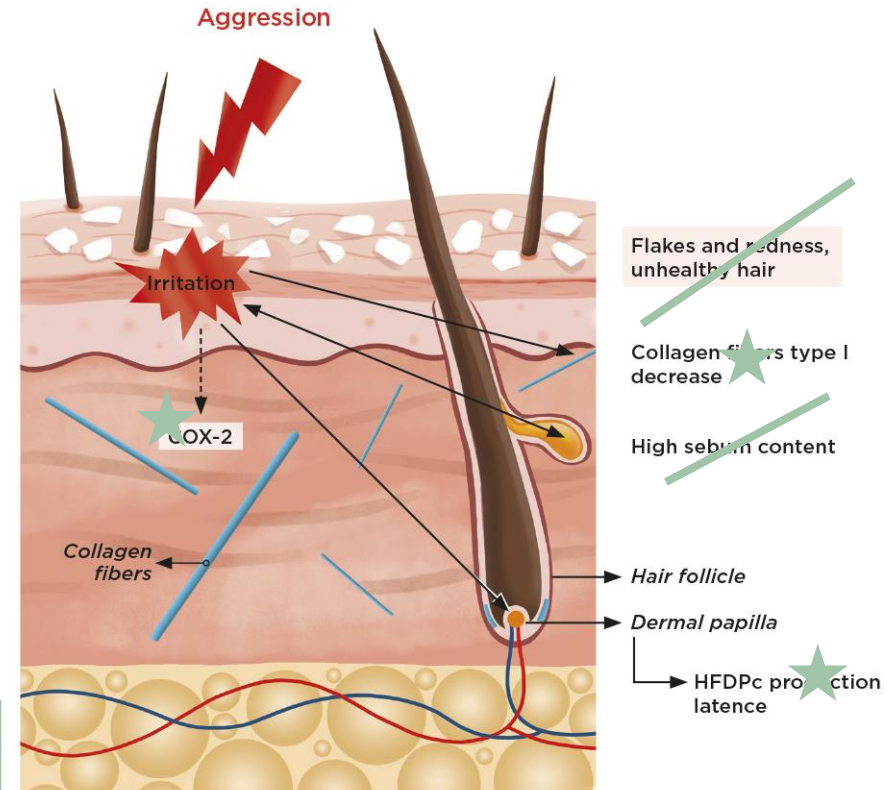
In-vitro data: cell viability and anti-irritation ability

Mode of action:

- Collagen I synthesis¹: **+14%**
- HFDPc cell viability¹: **+40%**
- Irritation mediator COX-2: **-50%**

AppleStem acts on processes in the scalp, as collagen synthesis, HFDPc viability and irritation to relieve the scalp

¹ at 0.005%



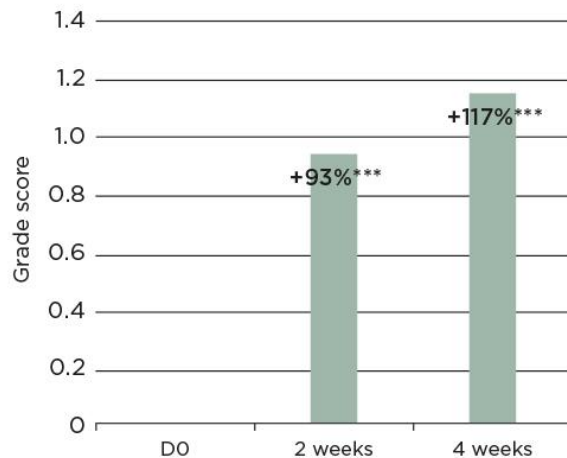
★ Action of AppleStem

Clinical data: scalp condition improvement

Clinical protocol

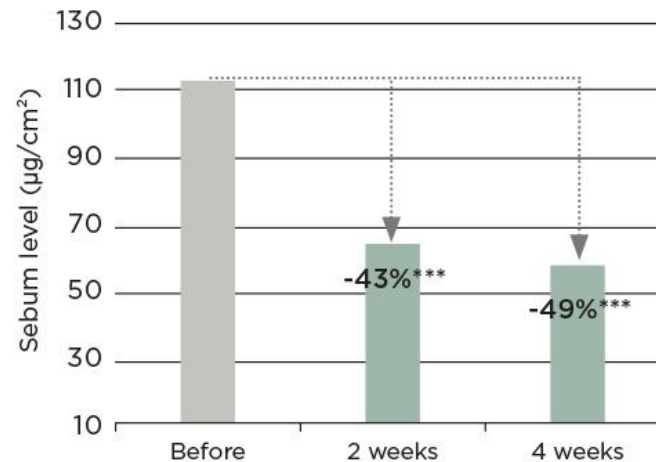
21 volunteers with erythema or papule and scale on scalp, AppleStem 5%. Scalp condition (erythema, papule), scale and sebum were evaluated before, after 2 and 4 weeks.

Scoring improvements to scalp condition

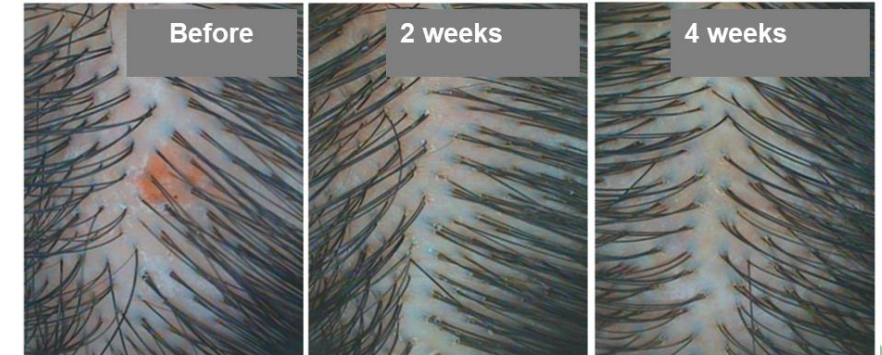


***p<0.001

Decrease in sebum secretion



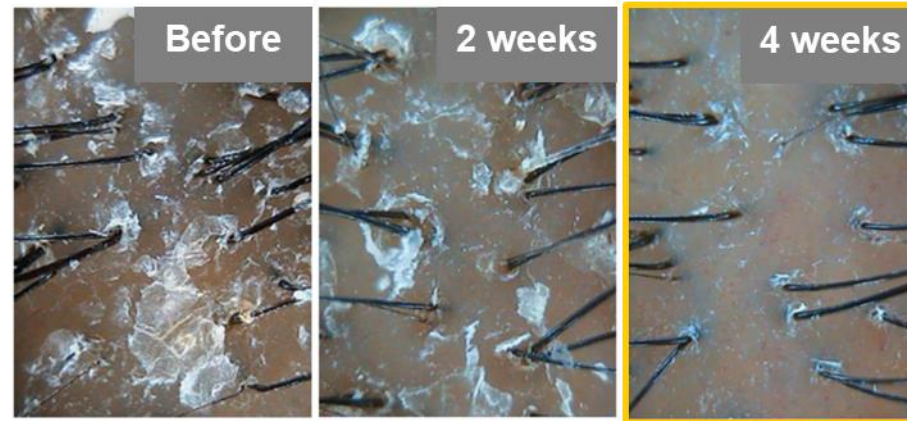
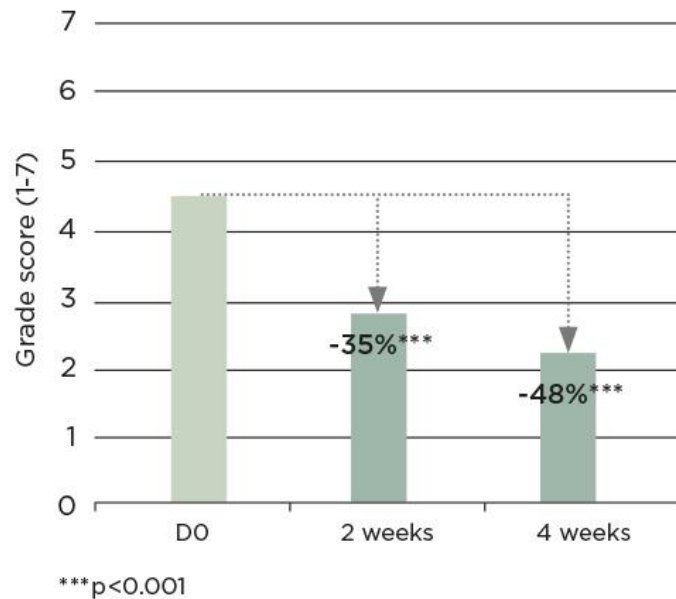
***p<0.001



Strong disappearance of erythema and papule on scalp being soothed. Regulates sebum on scalp surface, consequently hair are less oily.

Clinical data: scalp condition improvement

Scoring reduction in scalp flaking



Significant reduction in flaking from 4.5 to nearly 2. Scalp state is improved and scalp barrier reinforced.

Summary of AppleStem

- Apple: symbol of endless living cycle of apple fruit
- Increases **collagen** stimulation for scalp **anti-aging** action
- Targets **COX-2** a key irritation mediator
- Improves **hair cell viability** for hair loss prevention
- Tackles **scalp condition**: erythema, flaking and sebum content



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INCI Name: Malus Domestica Fruit Cell Culture Extract,
Hydroxyacetophenone, Ethylhexylglycerin



Thank you for your attention

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