

Can a Cream Reach the Problem?

An ingredient can be genuinely active in a laboratory and completely irrelevant in a jar. The difference is not chemistry — it is delivery, and almost nobody talks about it.

By **Shaaf Hussain** · Author & Founder | Level 1 · Awareness | Educational — not medical advice

<https://longevitydecoded.net/can-a-cream-reach-it-article.html>

WHAT YOU'LL UNDERSTAND BY THE END

Why the skin barrier blocks most of what is applied to it, the rough rule that predicts what gets through, and the four ways around it — so you can judge any product by whether it can arrive.

Here is the question that makes most skincare claims answerable. Not *does this ingredient do something?* — that is usually a laboratory question with a laboratory answer. The question is:

Does it arrive?

An ingredient that stimulates collagen beautifully in a dish of cells is doing so because it was placed directly onto those cells. On a face, it first has to cross a structure specifically evolved to stop things crossing.

WHY IT IS HARD

The barrier is very good at its job

The stratum corneum is often described as a brick wall: flattened dead cells as the bricks, lipids as the mortar. It is thin, but it is dense and it is water-repelling, and it is the reason you do not absorb the bath.

There is a widely used rule of thumb: molecules above roughly **500 daltons** — a measure of molecular size — struggle to cross intact skin in meaningful amounts. It is a heuristic rather than a law, with real exceptions, but it is a useful first filter.

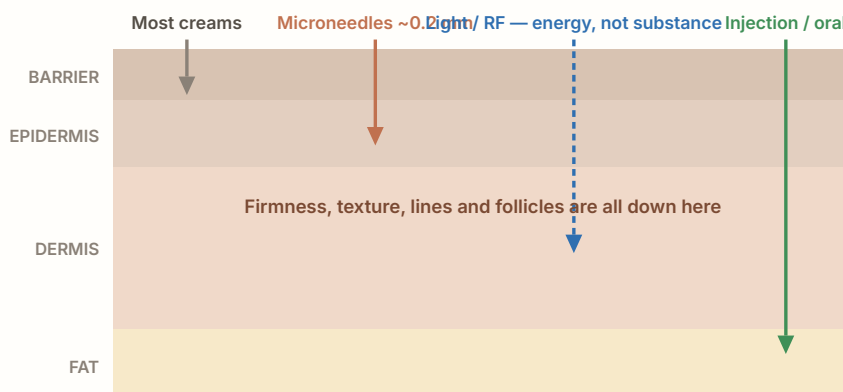
APPLY THE RULE AND SOMETHING BECOMES OBVIOUS

Collagen is an enormous molecule, in the region of three hundred thousand daltons — hundreds of times over the threshold. It is not going to cross intact skin, and if it did, it would not be reassembled into your own dermal scaffolding. That is not a claim that collagen creams do nothing; humectants at the surface genuinely soften and hydrate. It is a claim that whatever they do, **they are not replacing the collagen in your dermis.**

The same arithmetic applies to many peptides and large actives. It is worth doing before evaluating any claim about depth.

THE FOUR ROUTES

Where each approach actually reaches



The question is never "does the ingredient work?" — it is "does it arrive?"

Four ways of getting past the barrier, and how far each realistically goes. Depth is the variable that decides relevance.

- **Topical, unassisted** — works at the barrier and upper epidermis. Genuinely effective for hydration, barrier repair and surface texture. Small, fat-soluble molecules do better; retinoids are the standout case, with real trial evidence behind them.
- **Physical breach** — microneedles bypass the barrier by making tiny channels. The patches used around the eyes are roughly 0.2 mm, which clears the barrier and enters the epidermis; it does not reach deep dermis, and it certainly does not reach fat.
- **Energy rather than substance** — red light and radiofrequency do not deliver a molecule at all. They deliver energy that penetrates to a depth the molecule could not, and the tissue responds. This is a genuinely different mechanism and it sidesteps the delivery problem entirely.
- **Systemic** — injection or ingestion arrives via the bloodstream, from underneath. This reaches everything, which is also why it carries risks the others do not.

HOW TO USE THIS

The test to apply

Given a product claim, ask three questions in this order:

- **What layer does the problem live in?** Dryness and dullness are shallow. Firmness, lines and follicles are dermal. Hollowing is deeper still.
- **Can this route reach that layer?** Use the depths above.
- **If it cannot, what is the product actually doing?** Often something real but shallower — hydration, light diffusion, temporary tightening from a film former.

THE FAIR CONCLUSION, NOT THE CYNICAL ONE

This reasoning is not an argument that skincare does not work. Barrier care is real, sunscreen has the best evidence in the field, and retinoids do reach where they need to. It is an argument that **a product should be judged against the layer it can actually reach** — and that a claim about firmness from something that stays in the top fraction of a millimeter deserves a raised eyebrow.

Every “decoded” lesson in this school is an application of this test. You now have the tool they are built on.

WHAT THE EVIDENCE ACTUALLY SAYS

HUMAN EVIDENCE

Topical retinoids have randomized trial evidence for improving photoaged skin — among the few topical ingredients that clear that bar.

HUMAN EVIDENCE

The stratum corneum is the rate-limiting barrier to percutaneous absorption. Established, and the basis of pharmaceutical transdermal design.

MECHANISM

The 500-dalton rule is a well-known heuristic derived from observed patterns in transdermal drugs and contact allergens. Useful as a filter, not a physical law.

UNCERTAIN

How much of any given topical peptide reaches the dermis in practice, and whether the amount that arrives is enough to matter. Rarely measured, frequently asserted.

NOT SUPPORTED

That topical collagen replaces or rebuilds dermal collagen. The molecule is far too large to cross intact skin, and would not be incorporated intact if it did.

CONNECTED SYSTEMS

Where this connects

SKIN, HAIR & HEALTHY APPEARANCE

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THE WHOLE LESSON IN ONE LINE

An ingredient only matters if it arrives — most of what is applied to skin stays at the barrier, so judge any product against the layer it can actually reach rather than against what its active does in a dish.

Educational content only — not medical advice, diagnosis, or treatment. This lesson explains general skin biology for a non-specialist audience. It does not diagnose any condition and does not recommend any product, procedure or ingredient for any individual. A changing mole, a lesion that will not heal, sudden or patchy hair loss, or any skin change that worries you should be assessed in person by a doctor or dermatologist — no article can do that. Discuss any changes to your health, medications, or supplements with a licensed professional who knows your situation.

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