

Testing Our Ability to Read the Results



by Irena James

The good ol' days provided simpler times when it was enough to tell your client that their product contained hydrating honey, soothing aloe, cooling cucumber, and revitalizing carrot extract. Relying on anecdotal properties of ingredients, while failing to understand or interpret the scientific data behind ingredient activity and product performance, can put an aesthetician at a serious disadvantage in today's fast paced, information-laden climate. Even if we are able to wade through the data provided, keeping up with the latest information can become a full time job. Most people have neither the time, nor the expertise that is required, to dig through all of the complex research and correctly interpret the studies.

The science behind today's products has become more sophisticated, complex and multifunctional, and the demand to measure changes in our skin, document results and prove product performance is greater than ever. Our clients are bombarded with compelling claims and provocative promises from skin care brands, causing them to ask more questions and seek further reassurance that the products they are using are safe and effective and deliver the promises that prompted their purchases.

Types of Tests and Studies

There are numerous tests and studies that play a part in developing a new product. Some tests are must haves, such as stability and container compatibility testing, while others are optional, but can still be especially relevant when used to substantiate a product's ability to address the specific needs of a particular consumer demographic. Many optional tests involve finished product testing for product performance and claim substantiation, but most cosmetic companies simply cannot afford to put their products through expensive, time consuming independent clinical studies, the cost of which would ultimately impact the product itself.

Often, we are left to wonder what proof we have that our products are even working and, unfortunately, this is where it gets complicated. As far as the FDA is concerned, skin care products must be proven *safe*, but not *effective* and cosmetic manufacturers are not legally compelled to prove that their products actually work. Being that we are a self-regulated industry, it is up to the manufacturer to decide what kind of proof they will provide to the consumer, a decision that is most commonly made based on cost and claims sub-

stantiation tests are far from cheap. After all, a dissatisfied customer whose product failed to deliver results is more likely to continue to use it or store it rather than file a complaint. On the other hand, a customer with an allergic reaction due to product contamination is much more likely to alert the FDA or possibly even pursue legal action.

Raw Ingredient Studies

In order to imply product efficacy, cosmetic companies often borrow from the studies performed on individual ingredients contained within a product. Some of the most impactful claims in our industry have been taken directly from ingredient studies concluding that certain peptides, stem cell activators, and antioxidants can reverse signs of aging up to 10 years. This practice is perfectly fine, as long as the manufacturer uses identical ingredient percentages to those used in the study. Sadly, some skin care manufacturers knowingly showcase ingredient studies to promote their product, even though the percentage used in their formula is far less than the percentage used in the very study they are citing. These unethical practices are creating a slew of problems for skin care professionals who rely on the accuracy of the information provided by the manufacturers when developing an expectation of product performance with their clients.

Beware of Extreme Patterns in Data

Both retail and professional companies can be guilty of presenting the highest numbers obtained in studies, as opposed to the more accurate average percentage of improvement. "100 percent of women agree fine lines and wrinkles are minimized and hydration is increased." Establishing product

performance expectations based on these test results will certainly lead to disappointment and brand disenchantment, yet so many companies still take the risk. Similar to presenting extreme patterns in data, *up to* claims can be equally misleading. "Up to 88 percent reduction in the appearance of wrinkles and up to 98 percent increase in hydration after just 14 days," simply means that at least one person in the test group experienced these results, but it is much more probable and certainly more realistic to expect that most people will not experience such drastic results.

Read the Fine Print

Usually located under the *before and after* photographs or at the bottom of an advertisement, a small asterisk will often indicate the type of study that produced the quoted rate of improvement. The most commonly quoted studies by both retail and professional brands are *self-assessment* or *consumer tests*, which produce frequently spotted claims like "85 percent showed an improvement in the appearance of fine lines and wrinkles in just 14 days." While those numbers may sound impressive, there is so much that can influence the outcome of these studies, that basing your product selection solely on such an extremely high improvement rate would be ill-advised. Most marketing materials will not provide information about the methodology of the study, control or baseline. Without knowing how the baseline was established, as well as the test subjects' ages, ethnicities, geographical locations, and lifestyle or environmental factors, it is virtually impossible to predict the results you will achieve.

How to Detect Photography Manipulation on Before and After Photographs

In the past decade or so, technology that has made photography manipulation undetectable and has forever changed the landscape of before and after photographs. Even if a brand has not employed the use of editing, there are so many tiny details that can affect the accuracy of a photographic study. Factors like consistency of facial expression, angle, distance, position or view can significantly alter a study's perceived results. Something as simple as the type of light used or direction in which the light is pointed can create the illusion of a treatment result. However, the number, angle, height, distance and brightness of the *keylights* in a before and after photograph, when identical, can provide fairly accurate clues as to the study's veracity.

Even cosmetic giants like L'Oréal have been known to use such tactics, sparking consumer outrage in England and prompting civil litigation to be brought against the company. A British advertising watchdog group actually banned two advertisements for a L'Oréal foundation featuring actress Julia Roberts and model Christy Turlington. The company has also come under fire over the marketing of its anti-wrinkle creams featuring heavily airbrushed actress Kate Winslet, which, according to the complaint, does not reflect the true effectiveness of its products.

From the Lab to the Real World

While a product may perform well during testing, the way it is treated in the real world can reduce or even destroy its activity. Phytochemicals, vitamins, peptides, delivery systems, and other ingredients can be altered or destroyed when exposed to heat, oxygen, light, or pH variations. Packaging can also effect product performance, especially long-term. Ingredients of limited stability, such as certain forms of vitamin C or various antioxidants, must be protected by the container; therefore, ultraviolet-resistant or opaque packaging with little or no headspace and an appropriate dispensing system is highly recommended.

Product Care for Good Skin Care

Ultimately, it is the responsibility of the retail skin care provider to instruct their clients on the proper use and care of their skin care product in order to prolong ingredient activity. Storing products, especially jars, in a cool, dark area will protect ingredient integrity and ensure more optimal product performance. It is also important to be mindful of any expiration date.

The Future of the Proof

Cosmetogenomics, which employs the use of microarray analysis as the latest innovative tool for identifying biomarkers in order to explore skin properties and product efficacy, can also provide new insights into the mechanisms of ingredient action and the cellular targets being addressed by new and old ingredients, so that we may finally understand their mode of action.

Researchers are cautious, however, of making too many claims about how their products actually work. Skin care professionals need to be aware of the limitations that cosmetic manufacturers are facing when communicating product performance to the consumer due to the archaic FDA definition of cosmetics.

As consumers, skin care professionals must continue to ask questions and demand further proof; the skin care industry is responding by employing more sophisticated technology and measuring tools in order to substantiate these increasingly ambitious marketing claims. Understanding and interpreting this technology will become exceedingly difficult for the average aesthetician, making their relationships with their product manufacturers more important than ever.

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