

CelluCap™ A & CelluCap™ R: Microencapsulated Vitamin A & Retinol

For a More Stable and Effective Formula

Creating A More Powerful Alternative to Vitamin A & Retinol

You've probably heard of retinol and its reputation for regenerating and renewing skin. But did you know? Retinol is a derivative of vitamin A, and both are held in high regard as two of the industry's gold standard ingredients for ageless skin. It's easy to see why—with an extensive list of benefits (increasing cell turnover and the production of collagen, evening skin tone and pigmentation, decreasing fine lines and wrinkles, unclogging pores to help combat acne, smoothing and refining texture), vitamin A and retinol help users achieve younger, clearer, and healthier looking skin.

While these ingredients may be known for their powerful results, their efficacy is easily compromised due to their high sensitivity to oxidation. They degrade in the presence of air, sunlight, acidic conditions, and heavy metals, making them less stable and potent (and therefore, less effective). But we have a solution.

Tagra Biotechnologies has overcome these challenges with the creation of CelluCap™R and CelluCap™A, microencapsulated versions of retinol and vitamin A. By delivering the active ingredients in a stabilized, microencapsulated manner, Tagra's innovative technology helps to improve the performance and shelf life of the final formula.

The encapsulated retinol and vitamin A found in Tagra's CelluCap™ technology is only released once the user rubs it into their skin until that time, it remains unbroken and fully stable. The single layer polymeric shell collapses and breaks down into invisible particles, yet still retains its stability to continue delivery over time. Until the moment of application, retinol and vitamin A remain fresh and potent.

Technical Data CelluCap™ R

Technical Data CelluCap™ A

	Technical Data CelluCap™ R	Technical Data CelluCap™ A
INCI	Retinol, Cellulose Acetate Butyrate, Tricaprylin, Pentaerythrityl Tetra-di-t-butyl Hydroxyhydrocinnamate	Retinyl Palmitate, Cellulose Acetate Butyrate, Tricaprylin, Pentaerythrityl Tetra-di-t-butyl Hydroxyhydrocinnamate
Encapsulated Material	Pure Retinol	Retinyl Palmitate
Loading Capacity	9%	10%
Recommended Usage Level	1-3%	2-5%
Appearance	Pale Yellow Powder	White Powder

Our cellulose-based encapsulations (size <70 micron) are considered naturally derived per ISO 16128.

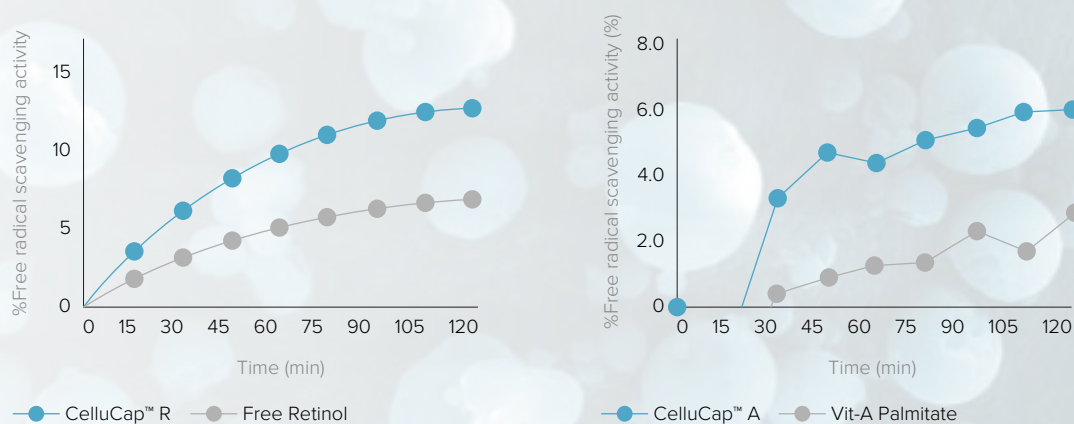
Formulation with CelluCap™

CelluCap™ R is gradually added at the last stage of formulation preparation, using a simple paddle/anchor type mixer at 70- 300rpm. Do not apply shear force • Incorporation should be done at temperature up to 50°C • No need for nitrogen environment while formulating with CelluCap™ R • Compatible with all types* of cosmetics formulations • CelluCap™ R is globally compliant including China, non-GMO, and is BSE, Halal, and vegan compliant • CelluCap™ R is non-nano, preservative free, and free from BHT, BHA, and microplastics.

*Formulations should not contain more than 20% of Alcohols and/or Glycols in total.

Improved anti-oxidant activities

Both CelluCap™ R and CelluCap™ A exhibit an improved anti-oxidant activity (based on DPPH test) as show in the graphs below:



Proven Results

After four weeks of using 1% CelluCap™ R (0.09% free Retinol) twice daily, 20 female subjects in a third-party clinical study found a 55.2% increase in skin firmness and an 11.2% improvement in the appearance of fine lines and wrinkles. 90% of participants agreed that the appearance of their fine lines and wrinkles were reduced, and a full 100% agreed their skin felt firmer and looked younger, healthier, clearer, softer, smoother, and more even!



Reduction of the appearance of forehead wrinkles (L) Baseline (R) 28 days

Vitamin A and its derivative, retinol, are game-changing skincare ingredients; but unfortunately, while they're known for their results, they're also known for a lack of stability that compromises their efficacy. Thanks to Tagra's microencapsulation technology, we're able to overcome these roadblocks. CelluCap™ R and CelluCap™ A, microencapsulated retinol and vitamin A, revolutionize these fan-favorite ingredients and make them stable, potent, and effective longer.