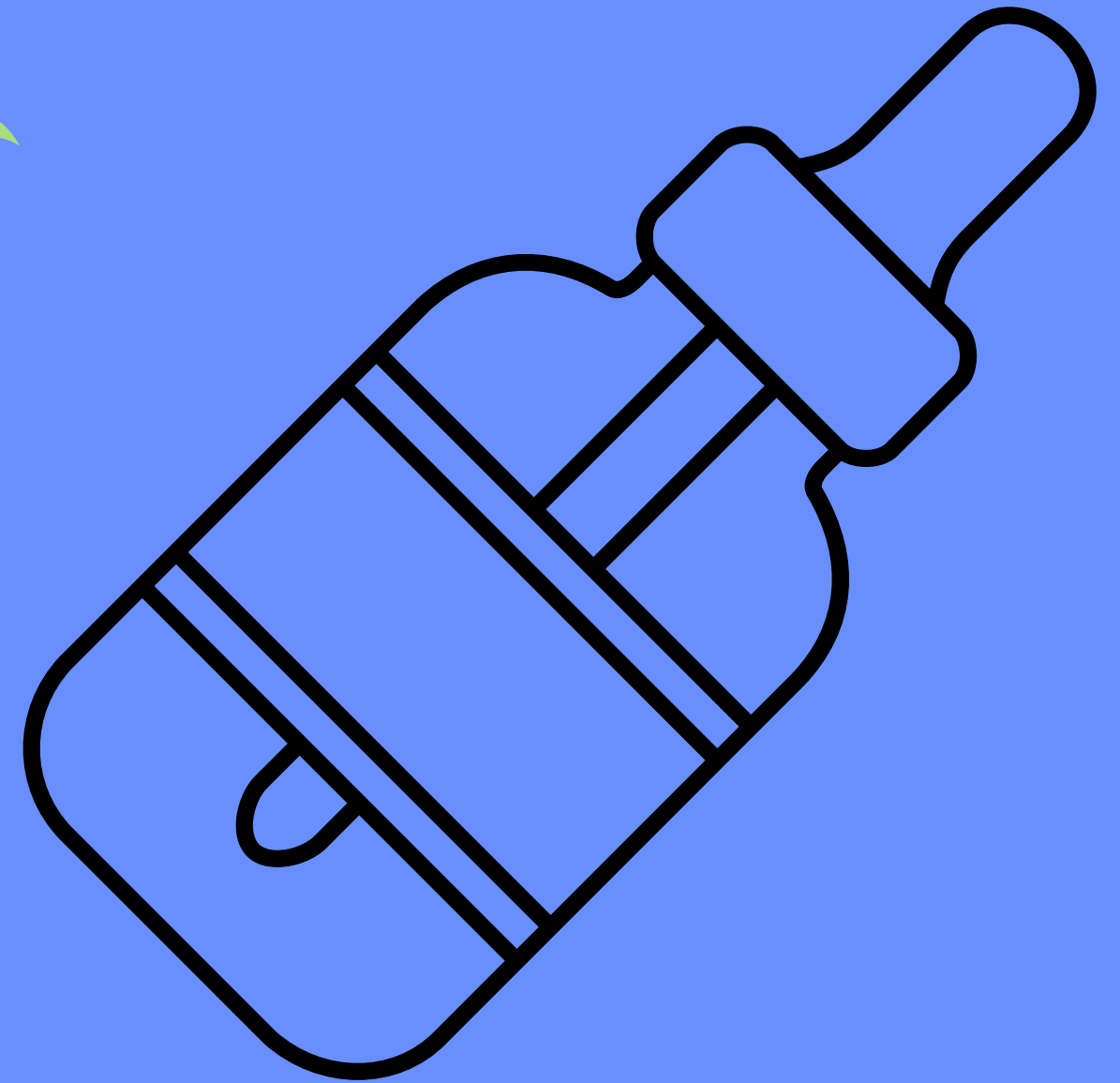
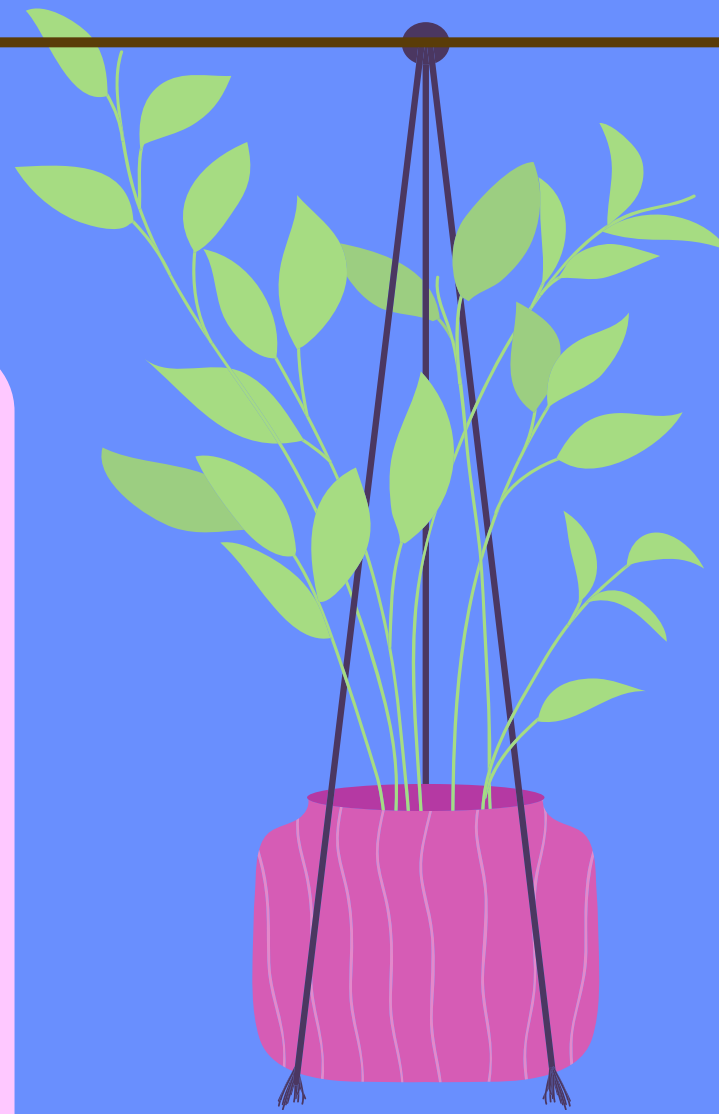


Bakuchiol Booster

NATURE'S RETINOL



NEW DIRECTIONS

A U S T R A L I A

Bakuchiol Origin Story

Psoralea corylifolia is a member of the Fabaceae family of plants and is the species from which we harvest Bakuchiol. The plant has a long history of medical use across both Ayurvedic and Chinese Medicine although there is no historical record of processing the plant in a way which isolates the Bakuchiol chemical and applies it to the skin.

Bakuchiol is a meroterpenoid (part terpenoid) chemical produced by plants as a secondary metabolite. This means the chemical is made in response to environmental pressures such as predation or climate variation rather than for food, reproduction or normal growth. Terpenoids are an interesting chemical family with many potential applications including antimicrobial and anti-inflammatory.

Bakuchiol is produced in the seeds of the plant and extracts have historical use as treatments for ailments such as acne, eczema, even leprosy,



Ayurvedic Skin Care - Holy Cow

Writing in the Hindu newspaper in 2019, Vasudha Rai explains that in Ayurvedic medicine, seeds from the Babchi plant were traditionally mixed into gau mutra (cow urine) before applying the concoction to the skin.

Investigating this further it appears that cow urine is often used as a solvent in Ayurvedic medicine. Further, it has been scientifically proven to boost the efficacy of several drugs. While this sounds unpleasant at first reading its chemistry does suggest it would have skin benefits. Urine is typically sterile, contains mostly water (around 95%) enhanced with a little acidity from Urea (2-3%) plus mineral salts and some enzymes. This combination would be mildly exfoliating, very hydrating and barrier protective.



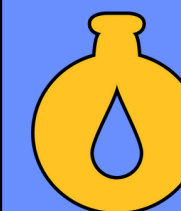
Cow urine distillate as bioenhancer

PubMed Central (PMC) / Dec 1, 2010



Better with bakuchiol

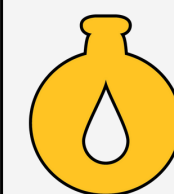
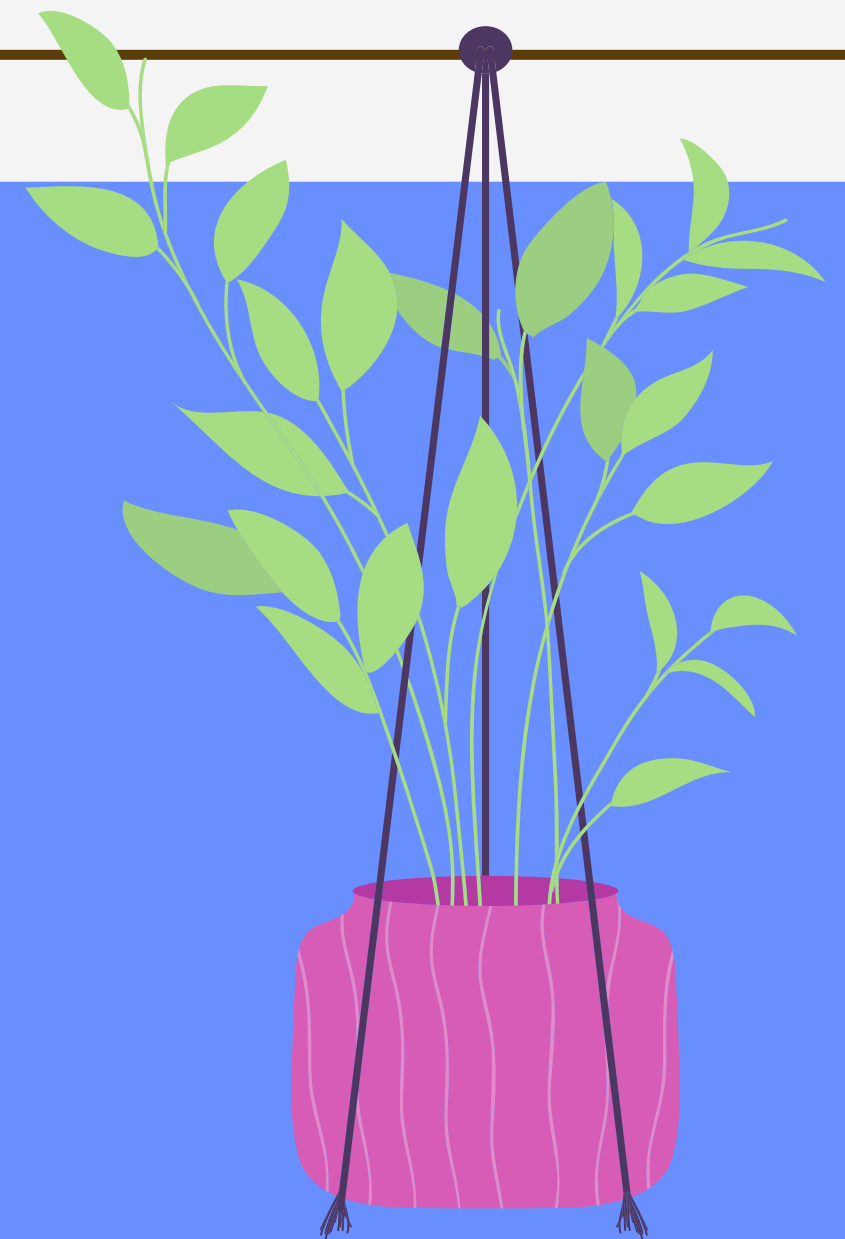
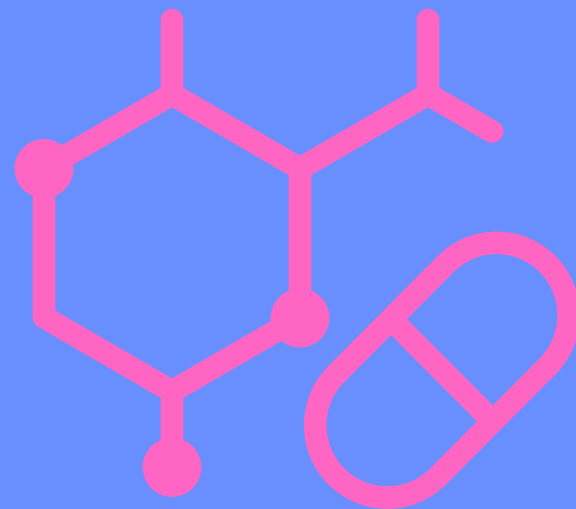
Find out why everyone is talking about skincare's new wonder ingredient, which is touted as a milder, yet effective, alternative to retinol



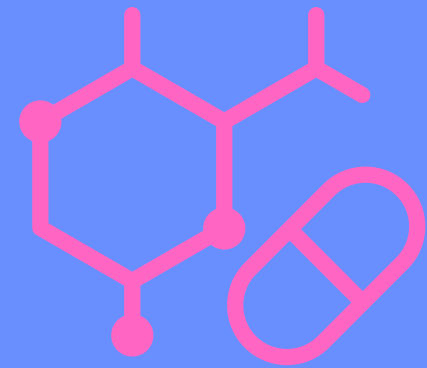
NEW DIRECTIONS

A U S T R A L I A

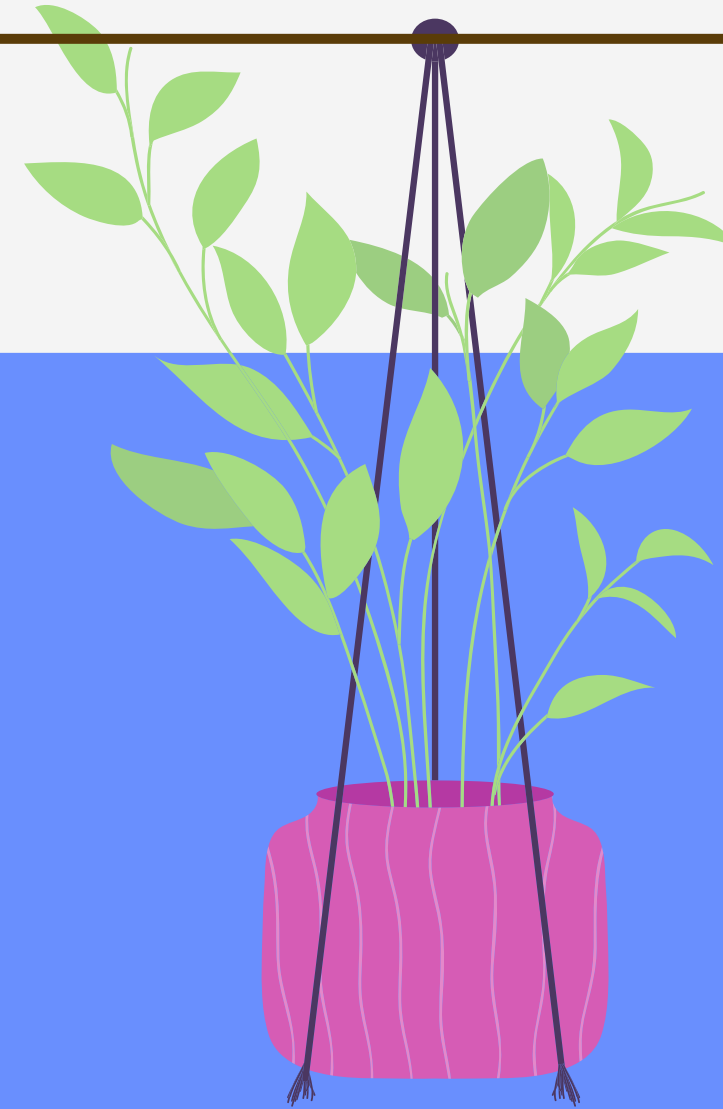
To understand the hype
around Bakuchiol, we
first have to understand
Retinol



NEW DIRECTIONS
AUSTRALIA



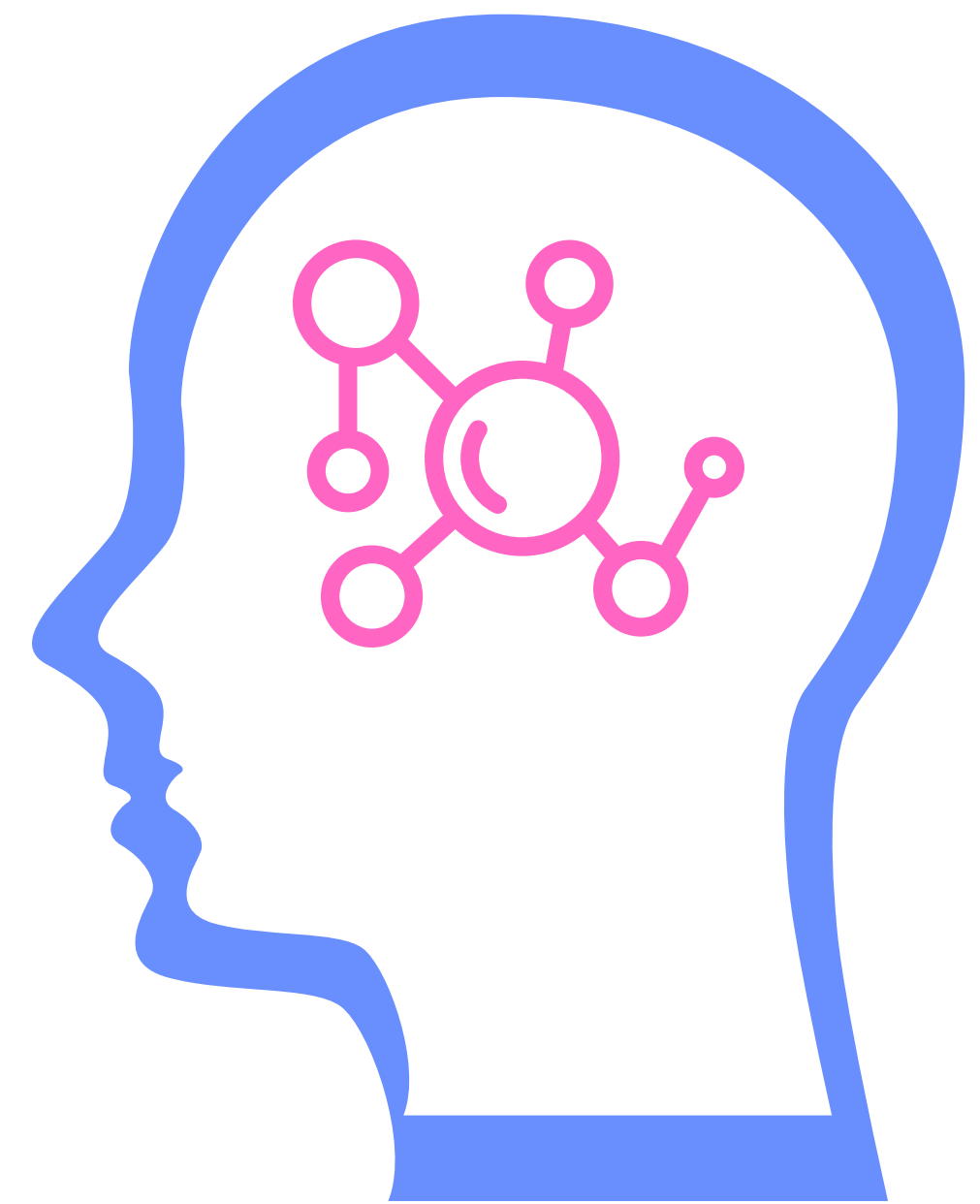
What is retinol?



Retinol is also known as Vitamin A. It plays an essential role in human development and is especially important in maintaining skin and eye health. It is a staple in dermatology and is prescribed for a number of skin conditions.

The Benefits of Retinol

Biomimetic anti-ageing and pimple reduction active



Normalises Sebum Production

Collagen Boosting

Smooths wrinkles

Reduces Pore Size

Reduces Pimples

Anti-Oxidant

Accelerates Cellular Turn-Over
(evens out pigmentation)

Reverses ageing



What is Bakuchiol?

A chemical that is naturally extracted from the seeds of the Psoralea Corylifolia plant. First extracted in 1966 by Mehta et al.



and the Bakuchiol Retinol link?

In 2019, a clinical trial of 44 people demonstrated improvements in pigmentation and redness in skin treated with a cream containing 0.5% Bakuchiol after 12 weeks of a twice-a-day application. Improvements were comparable to that achieved with a 0.5% retinol cream used once a day during the trial.



NEW DIRECTIONS

A U S T R A L I A

2014 cell culture & Pilot study (16 people)

Bakuchiol and Retinol were examined side by side on cultivated skin cells and then analysed to track which genes they had influenced.

This test was able to confirm a retinol-like action from the Bakuchiol. Basically the Bakuchiol interacted with the same anti-ageing gene pathways and proteins that Retinol does.

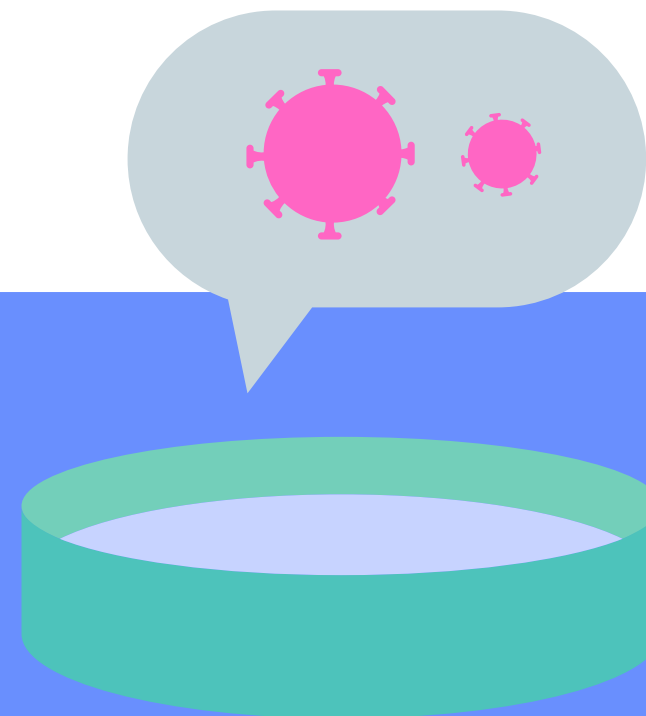
A second part of this trial was to evaluate the Bakuchiol in a live panel test. During this 12 week test the Bakuchiol was found to reduce wrinkle number and depth and even out skin pigmentation.



Bakuchiol: a retinol-like functional compound revealed by gene...

Synopsis Objective The study was...

deepdyve.com



Why look for alternatives to retinol if retinol is so good?


Retinol is not natural and can never be organically certified.

Also, using retinol comes with significant downsides that are said to be absent with Bakuchiol.

Retinol side effects: Skin Irritation, Dryness, Peeling, Erythema, Burning Sensation, Photosensitivity (due to Retinol being unstable under UV light), Unsafe to use during pregnancy.





 **A new case of contact dermatitis to bakuchiol in a cosmetic cream, Contact...**
deepdyve.com



Bakuchiol, Retinol without the down sides?

Not quite...

Bakuchiol has been linked to incidents of contact dermatitis. Anything that is active can cause negative reactions.

Irritation seemed to increase when Bakuchiol is used in excess of 1% and the incident reported in the attached study occurred with application of a 0.1% cream

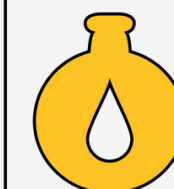
Features and Benefits

Bakuchiol

- Natural plant based extract
- Some evidence of Retinol-Like Activity
- Photo-stable so can be used during the day
- Pregnancy Safe (for topical application)
- Doesn't cause skin dryness, peeling and redness

Retinol

- Biomimetic but synthetic chemical
- Long History of clinical effect
- Long-term safety and precautions known and can be managed.
- Gold standard based on evidence and efficacy data



NEW DIRECTIONS

A U S T R A L I A

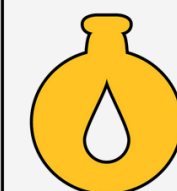
The Scientific Evidence?

Bakuchiol

Two studies funded by one ingredient supplier between 2013-2019. Studies were not bad but not A grade being more marketing than therapeutic in their quality and scope.

Retinol

Hundreds of studies and thousands of papers, medical level evidence and prescription protocols. Long history of use and good awareness of contra-indications and weaknesses.

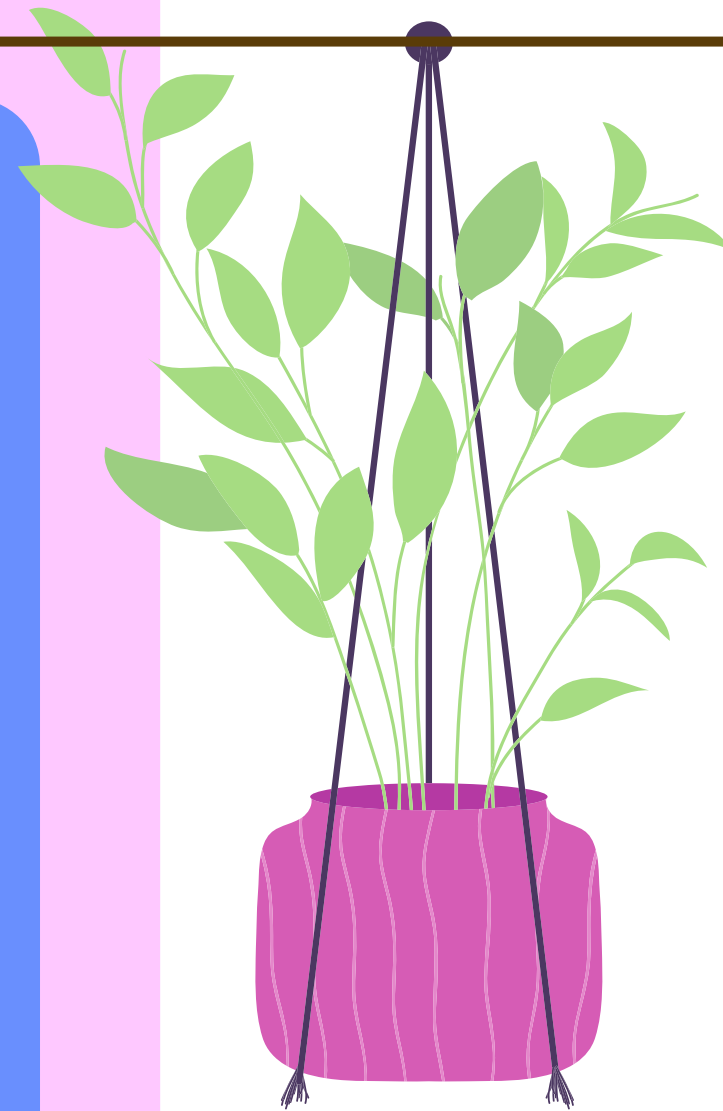


NEW DIRECTIONS

A U S T R A L I A

Bakuchiol Verdict: An interesting ingredient but at this point the data is more marketing hype than solid science.

There are also some worrying potential down-sides with this ingredient to watch out for.



Bakuchiol: The Market So far

All products surveyed (18) made mentioning Bakuchiol central to their marketing message.

Oil Serums

Varying from very simple 2 ingredient products to complex blends of essential, speciality and infused oils.

Prices range from \$1.3 - \$5.6 per ml

Rarely mentioning Bakuchiol concentration. All surveyed were likely 1% or under

Emulsions

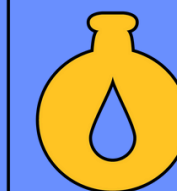
Ranging from moisturiser style through to light weight serum type emulsions this group did mention Bakuchiol concentration more but still not that often.

Levels from 1-2.5%.
Price ranges from \$0.5 - \$2.80 per ml.

Most completely natural but not all.

Water Serum

Only one was found in the products surveyed plus one bi-phase product. With these, one was advertising 4% Bakuchiol but with no data to back up why. The other didn't list an amount. Prices were \$0.9 and \$2.8 per ml.



NEW DIRECTIONS

A U S T R A L I A

Formulating With Bakuchiol

Proven Safe & Efficacious use level

Appearance

Odour

pH requirements

Heat stability

Oxidative Stability

0.1-1%

Brown liquid

mild

none specified

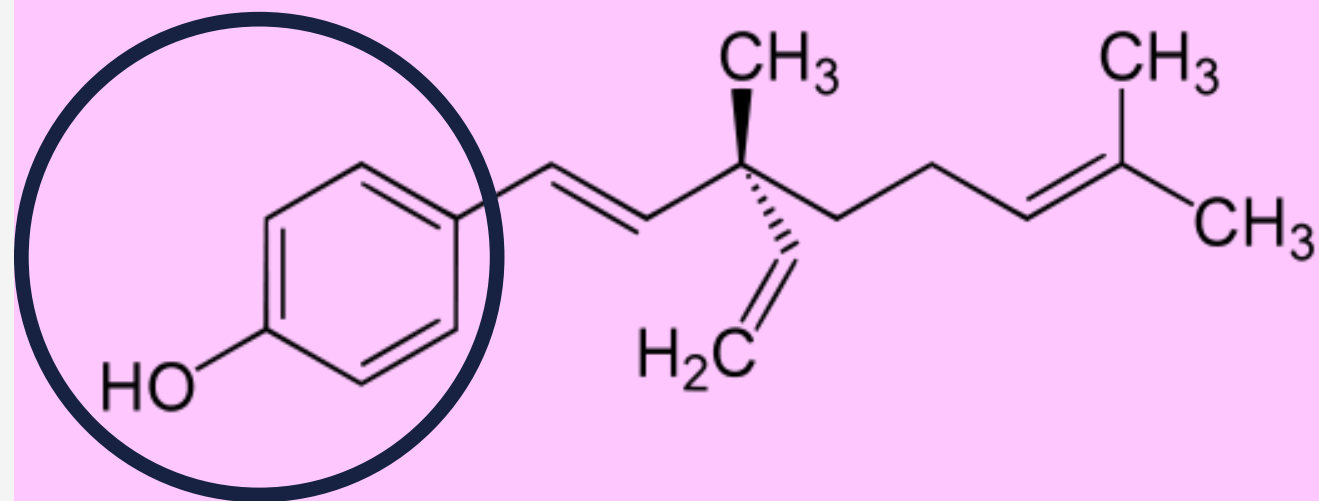
Good

Very good

Formulating With Bakuchiol

Solubility

Hydrocarbon Tail = non-polar alkene
(oil soluble)



Phenol Group = Polar (water soluble)

Molecular weight 256.38



The solubility of Bakuchiol has caused a few customers issues but it need not be a problem.

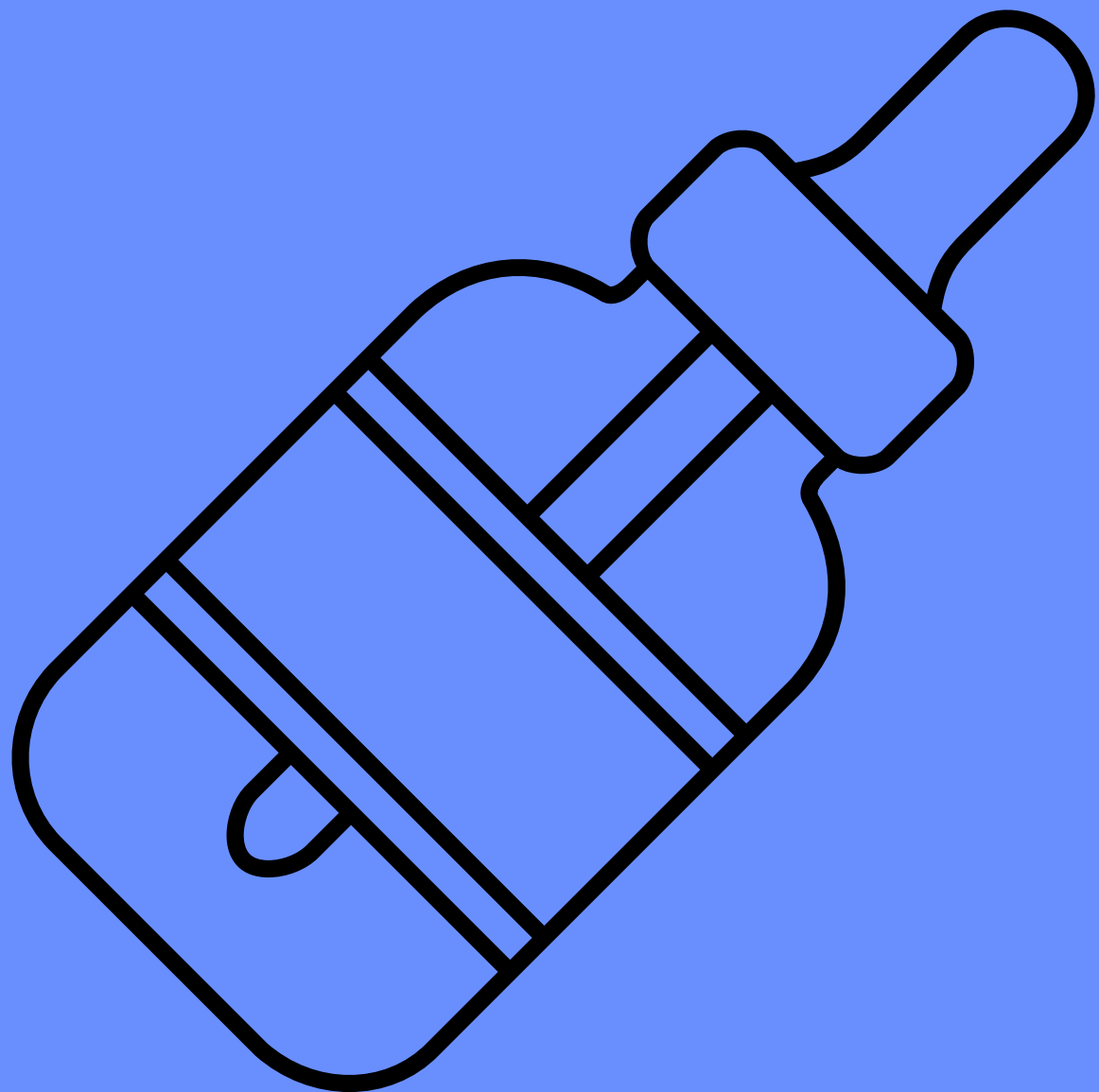
The ingredient is oily to the touch, but its chemistry is different from a typical vegetable oil, being more similar to what you find in an essential oil, aromatic resin or absolute.

Bakuchiol is readily soluble in alcohol and has good solubility in Pentylene Glycol. These can be used to help it become miscible in water based products.

If formulating an oil-only serum, it is easy to create a homogenous and clear product when slightly polar ingredients are used. Try adding a little silicone natural alternative, Isopropyl Myristate, Castor Seed Oil or Oleyl Oleate to your oil based serum to ensure Bakuchiol remains well blended.

New Directions Bakuchiol Booster

1% Bakuchiol Content blended with Vegetable Squalane to create a skin-kind, COSMOS certified oil serum suitable for daily use.



Refines Pores

100% plant based anti-ageing

For boosting collagen and skin rejuvenation

Skin Reset

Natural Retioid

Youthful, glowing and smooth skin

Softens signs of ageing

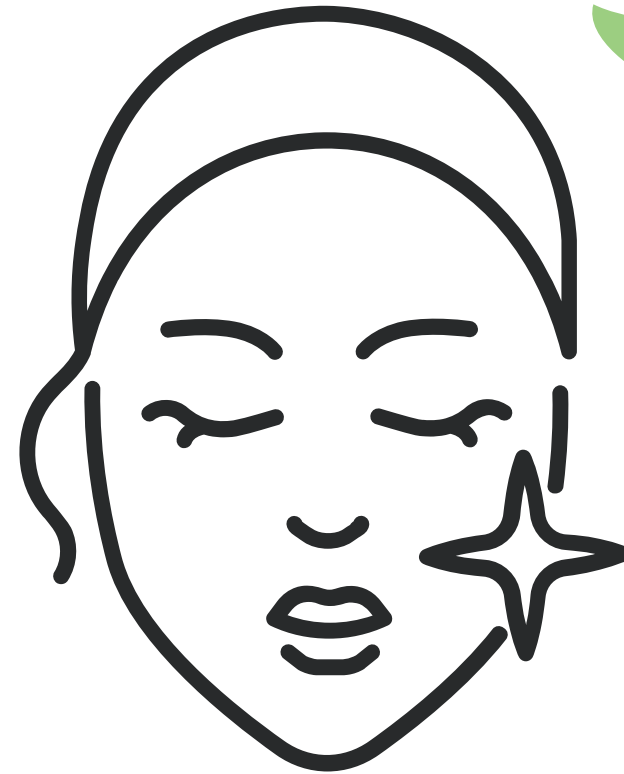
Plant based anti-ageing

Rejuvenating

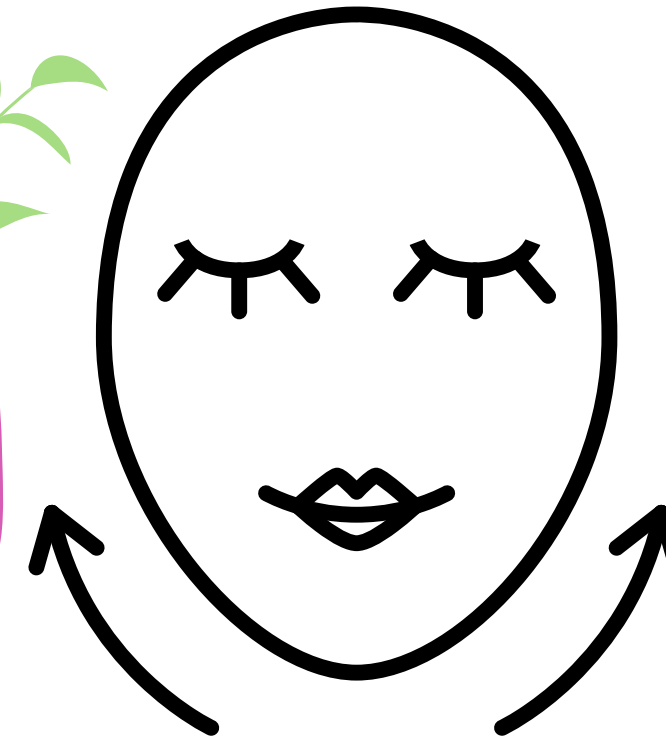




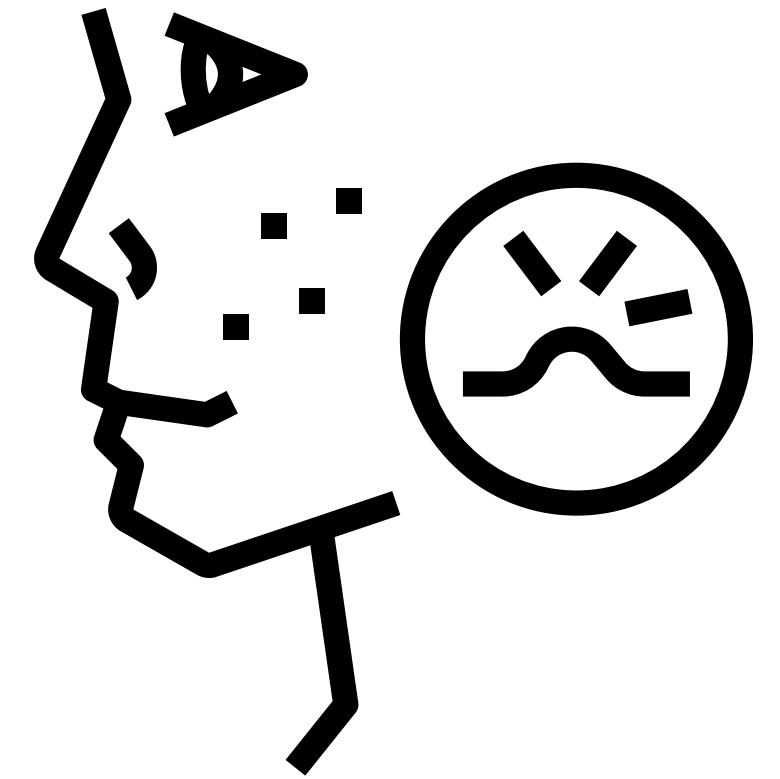
Hydration and
barrier protection



Skin brightening



Anti-ageing



Complexion
correcting

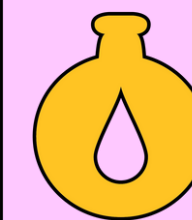
Bakuchiol, the plant-derived skin treat that has got everybody talking.



The seeds of *Psoralea Corylifolia* contain a range of chemicals, many of which have been found to have very powerful actions on the skin. Some of the chemical components found in the seed oil have the potential to be photosensitising and as such, it is much safer to formulate with Bakuchiol isolate rather than the whole seed oil.

Chemicals from the whole seed oil that have undergone further study include Psoralen, Angelicin, Corylifol, Corylin, Isopsoralen, Isobavachalcone and Bakuisoflavone.

**Bakuchiol:
Why the
extract is
safer than
the whole
seed oil**



NEW DIRECTIONS

A U S T R A L I A

Phytoestrogen Link

Both Bakuchiol and other chemicals present in *Psoralea Corylifolia* have been found to exert a phytoestrogen effect on human cells.

Phytoestrogens are plant-derived chemicals that act on the human body in the same way that estrogen does only typically to a much lesser degree.

It is not unusual for plants to contain chemicals that act in this way. Soy, tomato, carrot, liquorice, turmeric, ginger, honey, broccoli and cabbage all contain such chemistry.

Studies into the estrogenic properties of both Bakuchiol and the wider chemistry of this plant are ongoing with early data pointing to some anti-cancer properties.



Phytoestrogen Bakuchiol Exhibits In Vitro and In Vivo Anti-breast Cancer Effects by Inducin...

Phytoestrogen has been proposed as an alternative to hormone replacement therapy, which has been...

 DeepDyve

