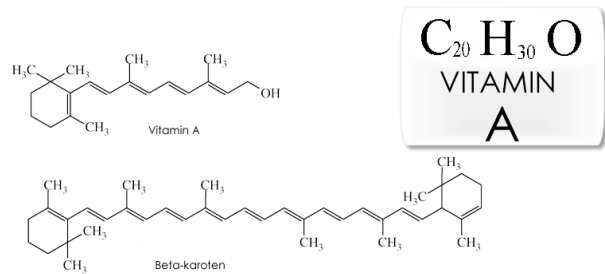


## Vitamin A: Retinoids and Carotenoids

To truly understand vitamin A it is important to understand all the different terminology, the different derivatives and precursors including carotenoids.



### What are carotenoids?

Carotenoids are a group of fat-soluble pigments found in plants and animals. They act as precursors to vitamin A. Precursors in biochemistry are described as “a substance from which another is formed, especially by a metabolic reaction.” These precursors include:

- Lycopene - a red carotenoid found in tomatoes and many berry fruits
- Lutein - a deep yellow pigment found in leaves of plants, egg yolk
- Beta-carotene - an orange pigment found in carrots, peppers, etc.

The most familiar beta-carotene is carrots! **Carotenoids convert to Vitamin A** from small intestine absorption then stored in the liver as **retinyl palmitate**. Beta-carotene is found in our **PEPTI-pad** and our Day Moisturizer because it works as an antioxidant. Eighty percent of vitamin A found in the skin is in this form. It also increases collagen, skin thickness and elasticity.

### What are retinol and retinoic acid and why is Rejuvenator a far superior choice for the skin?

- **Retinol** is one of the most useable forms of vitamin A. It is the alcohol form and is considered the “true vitamin A.”
  - If your skin is deficient, retinol is beneficial at first, but if you are not deficient and you overuse, your body stops producing its own.
  - If the body is pushed to do things that it is not ready to support, it leads to mutations.
  - Retinol comes with contraindications:
    - Redness/irritation
    - Waxing restrictions
    - Increased irritation from sun exposure
- **Retinoic acid** is the acidic form of vitamin A (Tretinoin or Renova). It is essentially a growth factor. That means it forces your cells to grow (divide and desquamate) even if they are not ready or prepared to do so causing mistakes to happen. (scarring, improper matrix, etc.)
  - Retinoic acid has the same contradictions as retinol.

### Rejuvenator is a peptide messenger to re-optimize cellular turnover.

When you compare younger turnover rates to the more mature division and desquamation, you have an excess of 30+ days!

### Rejuvenator does not FORCE cells to perform.

The goal is not to increase cellular turnover; it is to return to a healthier metabolism, allowing for skin's natural cellular turnover rate to re-establish without contraindications or complications.

