

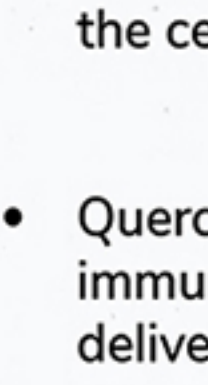


Solving the Quercetin Quandary

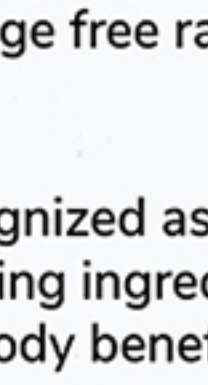
A novel isoquercitrin precursor offering formulation versatility and improved bioavailability

What Is Quercetin and Why Is It Beneficial?

Quercetin is one of the most abundant bioflavonoids and is frequently found in:



Fruits



Vegetables



Wine



Green Tea Leaves

- Quercetin, an active antioxidant, scavenges unstable free radical particles in the body that damage cell membranes, tamper with DNA, and even cause cellular death¹
- Antioxidants can neutralize free radicals, reducing or helping to prevent some of the cellular damage free radicals cause
- Quercetin is recognized as an immune-supporting ingredient that delivers whole-body benefits²



Quercetin in the Market



The Challenge: Absorption Quandary

Supplemental forms of quercetin are generally challenged with poor solubility—which also causes very low bioavailability, making it ineffective as a dietary supplement.

Quercetin's poor bioavailability is based on not being well absorbed over the intestinal mucosa

To overcome this obstacle quercetin needs to be modified - natural quercetin derivatives with better solubility and bioavailability needs to be sought out

Brands and consumers alike may be disappointed by ineffective results from conventional quercetin formulations, thereby inhibiting repurchase

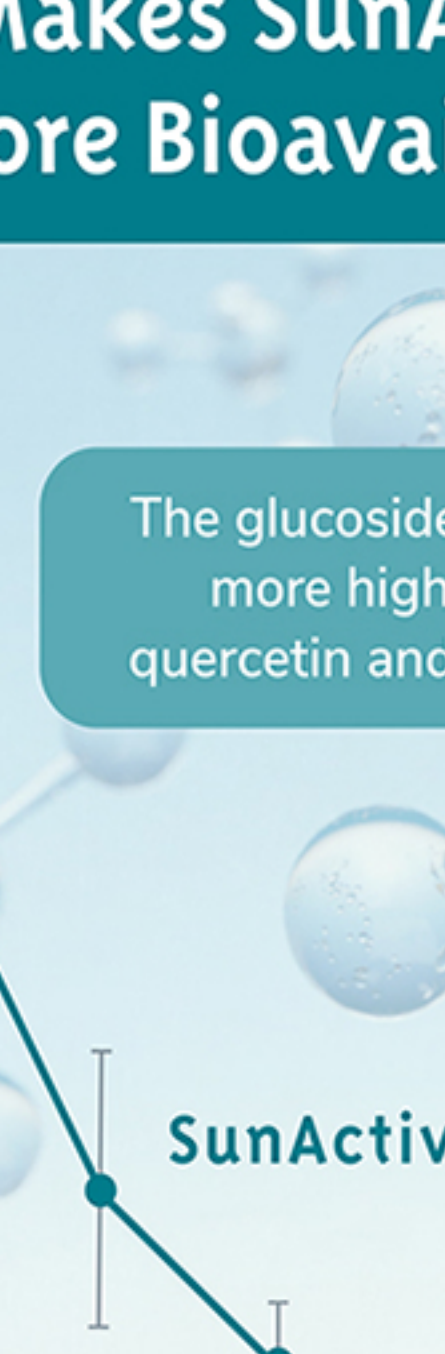
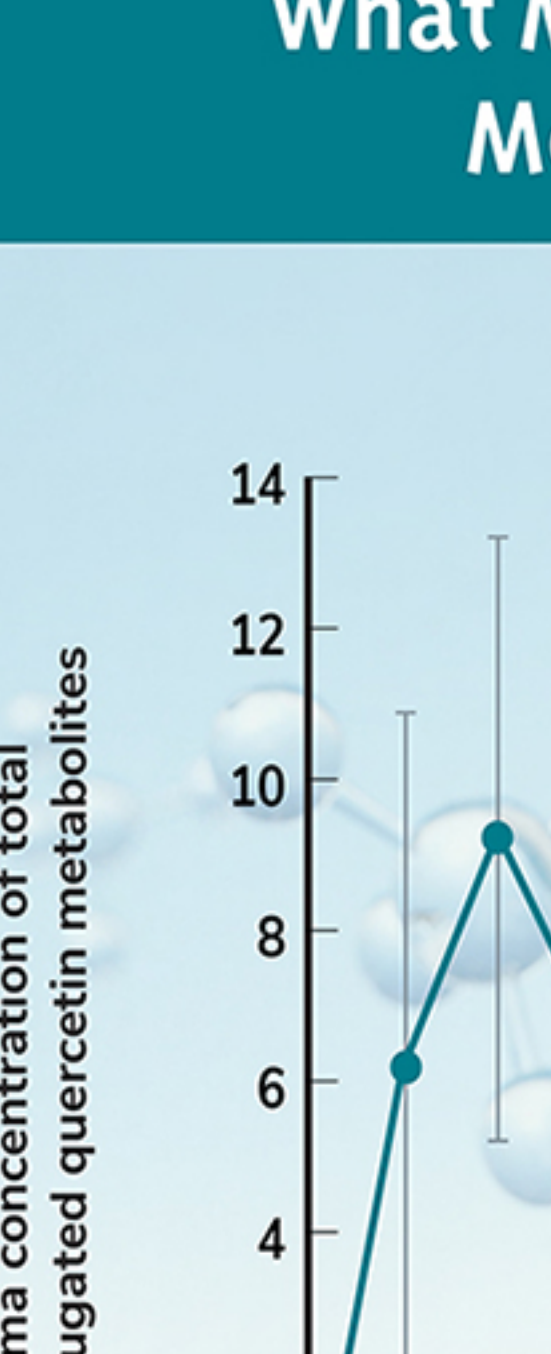
The Solution: Isoquercitrin Quercetin Precursor

A solution to address bioavailability and water-solubility is NEW SunActive® IsoQ

What is SunActive® IsoQ?

SunActive® IsoQ is a novel delivery system that delivers **Isoquercitrin** which is actively converted to **quercetin** in the body.

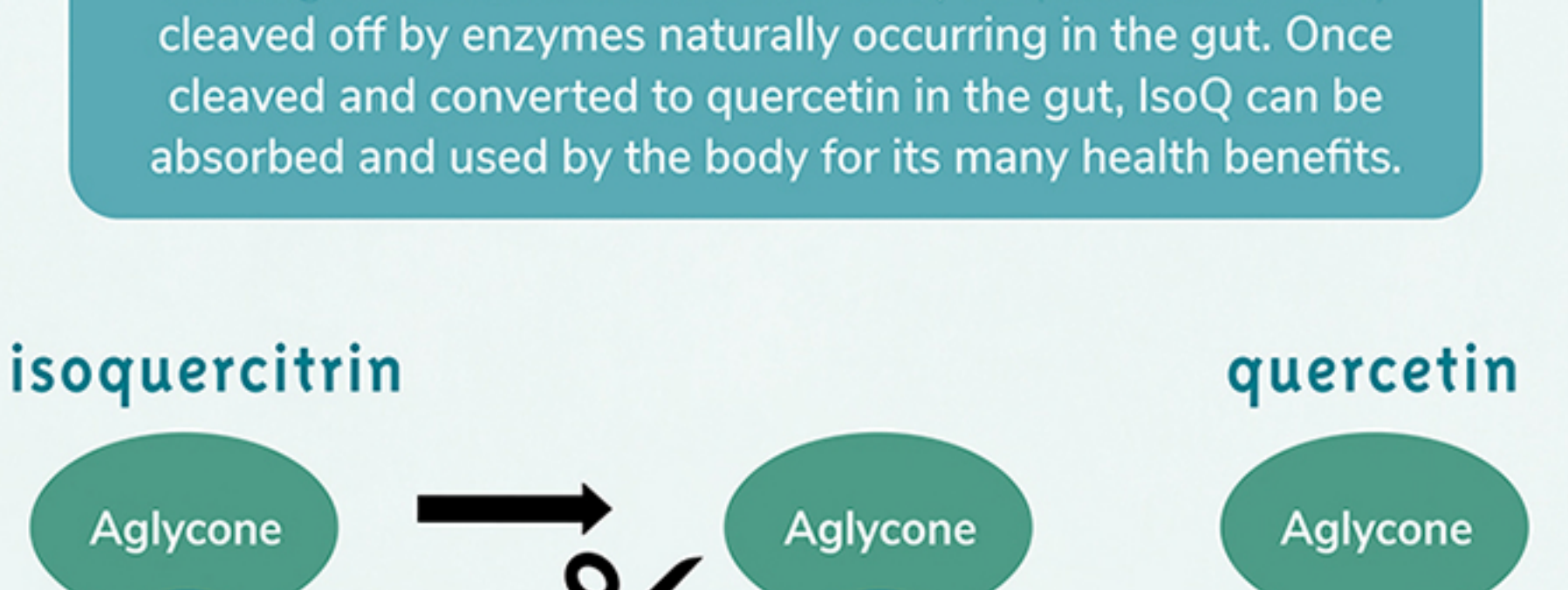
SunActive IsoQ VS. Quercetin



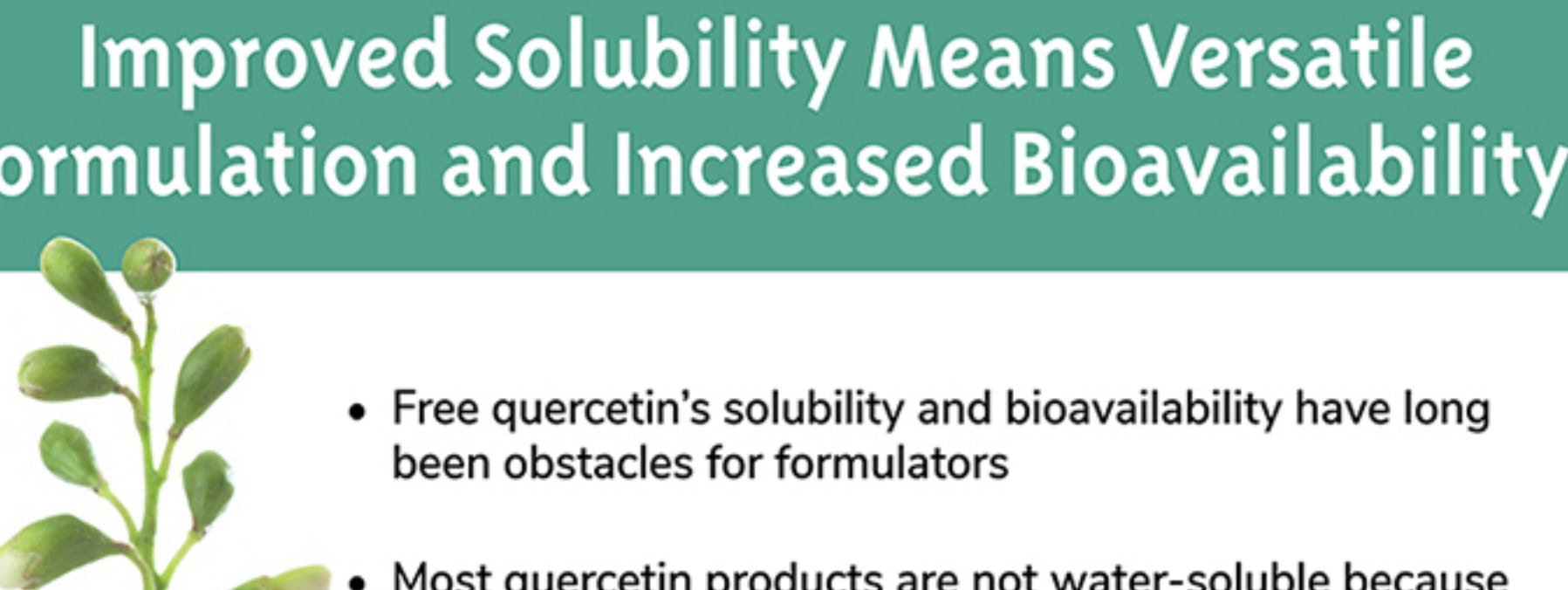
This solubilized form of quercetin is **25X MORE** bioavailable than quercetin itself

This high bioavailability is achieved through an encapsulated matrix that makes it completely water-soluble, allowing it to reach the gut where it is converted to quercetin and absorbed by the gut lining

What Makes SunActive® IsoQ More Bioavailable?



The sugar molecule in SunActive IsoQ isoquercitrin is easily cleaved off by enzymes naturally occurring in the gut. Once cleaved and converted to quercetin in the gut, IsoQ can be absorbed and used by the body for its many health benefits.



Improved Solubility Means Versatile Formulation and Increased Bioavailability!



- Free quercetin's solubility and bioavailability have long been obstacles for formulators
- Most quercetin products are not water-soluble because quercetin itself is not soluble, which affects bioavailability

SunActive® IsoQ (Isoquercitrin) is derived from rutin which is extracted from the dried flower buds of the Japanese Pagoda tree using a solvent-free, enzymatic process.

- The isoquercitrin is encapsulated in an almost cylinder-shaped structure, the result is a water-soluble dietary ingredient
- Encapsulating the isoquercitrin is what allows it to solubilize, pass through the stomach unaltered, and reach the gut, where it is then converted to quercetin and absorbed

Improving the bioavailability of quercetin is a highly sought-after benefit to brands formulating high-quality quercetin products that deliver the effective results that consumers demand.

SUNACTIVE® ISOQ IS 25x more bioavailable than quercetin and it contains the equivalent of at least **11% quercetin**, which means that 100 mg of SunActive® IsoQ delivers an equivalent of **275 mg of quercetin** in the body!

Whole Body Benefits of Quercetin

Quercetin has been extensively studied for immune support, healthy anti-inflammatory effects, allergy symptom relief, cardiovascular health, exercise performance and muscle function.

- Immune Support**
Helps improve healthy anti-inflammatory and immune responses⁴
- Allergy Relief**
Quercetin is an inhibitor of histamine release in humans, the signaling molecule responsible for allergic reactions that cause symptoms like sneezing, watery eyes and sinus congestion⁵
- Cardiovascular Health**
Quercetin leads to an enhancement in cardioprotective effects⁶
- Exercise Performance & Muscle Health**
Studies demonstrate that quercetin helps with performance and fatigue both with continued and acute consumption before exercising^{7,8,9}

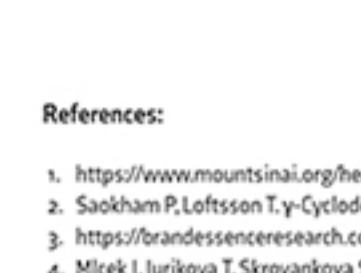
Formulating with SunActive® IsoQ

SunActive® IsoQ is:

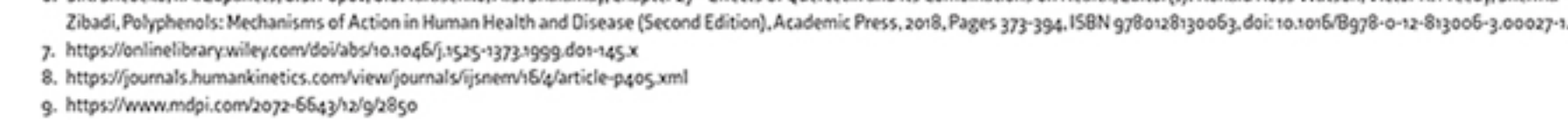
- ✓ A yellow, odorless powder, quickly and completely soluble in water
- ✓ Versatile—a highly bioavailable precursor to quercetin and is suitable for both powder and liquid applications including:



- ✓ A highly bioavailable and fully soluble replacement for standard quercetin to lower dose size in all formulas; ideal for multi-ingredient formulas, and formulations requiring soluble ingredients



Smaller Dose
Replace a standard **500 – 1,000 mg** dose of regular quercetin with just **180 – 360 mg of SunActive® IsoQ!**



Learn more about **SunActive IsoQ**

References:
 1. <https://www.ncbi.nlm.nih.gov/pubmed/17411011>
 2. <https://pubmed.ncbi.nlm.nih.gov/2718032/>
 3. <https://www.researchgate.net/publication/312111111>
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