

BryoBright™

Moss-powered defense against dark spots

BryoBright™ (INCI: r-Physcomitrium patens extract) is BryoSphere Biotechnologies' next-generation bioactive ingredient developed for **dark spot, discoloration, and uneven tone** formulations. Produced through proprietary moss cultivation, BryoBright™ is enriched in **aureusidin**, a rare aurone flavonoid, alongside a diverse profile of moss-derived antioxidants and polyphenols.

Together, these components support visibly more even-looking skin through a multi-pathway approach:

- **Dark spot + uneven tone support** → Helps visibly improve the appearance of discoloration for a more even-looking complexion.
- **Melanin pathway support** → Aureusidin interacts with pathways involved in skin tone regulation to support brighter-looking skin.
- **Oxidative stress defense** → A rich antioxidant profile helps defend against environmental stressors that contribute to visible dullness and discoloration.

The result: a sustainably developed, science-backed ingredient that supports **visibly brighter, more even-looking skin tone and improved radiance.**



Sustainably cultivated, scientifically backed, reliably purified

Moss innovation



Moss is optimized to make high levels of rare bioactive compounds using wild flower genes

Cultivation



Proprietary moss is grown in bubbling photo-bioreactors

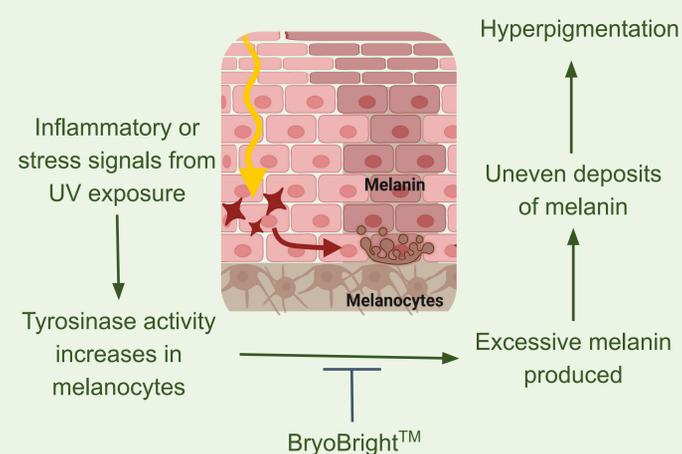
BryoBright purification



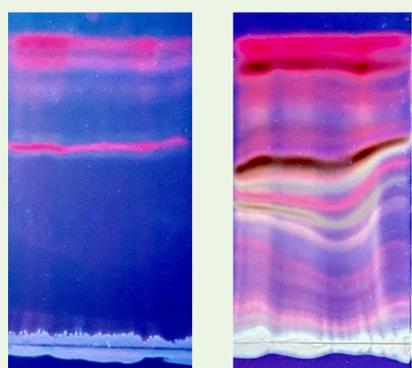
Bioactive compounds are extracted and purified

BryoBright™ inhibits human tyrosinase via aureusidin, reducing melanin synthesis and targeting hyperpigmentation at the enzymatic level.

In *in vitro* assays against purified human tyrosinase, BryoBright™ achieved **approximately 90% of the inhibitory activity of purified kojic acid** under **identical conditions** (data on file).



BryoBright™ contains **7% bioactive flavonoids**, 2.5× more than wild-type moss, including aureusidin and other naturally occurring compounds known for their brightening, antioxidant, and protective benefits, helping to visibly correct hyperpigmentation.



Wild type moss BryoBright™ moss

Flavonoids

BryoBright™ delivers strong antioxidant activity comparable to leading synthetic benchmarks, with a rich polyphenol content that helps protect skin from oxidative stress and environmental factors.

Enhanced antioxidant profile includes:

- **Aureusidin** – a rare flavonoid identified in moss, shown in in-vitro studies to interact with pathways involved in skin tone regulation
- **Luteolin** – a well-known flavonoid with strong antioxidant capacity
- **Quercetin** – a polyphenol studied for its free radical scavenging properties
- **Kaempferol** – a flavonoid contributing to oxidative balance
- **Naringenin** – a citrus-derived flavonoid associated with antioxidant benefits

Parameter	Specification
INCI Name	R-Physcomitrium patens extract
Appearance	Minimal to subtle yellow tint
Odor	Mild
Solubility	Water, glycerin and emulsion soluble
Formats	Available in powder form and concentrated in 80% glycerin
Recommended use level	0.5-2%
Formulation compatibility	O/W emulsions, water-based, glycerin-based
pH range	4.5-6.5
Storage	Cool, dry conditions away from direct sunlight
Safety data on file	BryoBright™ was Non-cytotoxic and non-mutagenic in standard in vitro assays

