

Superoxide Dismutase

BIOTECH EDGE

Superoxide Dismutase (SOD) **plays a vital role in maintaining skin health by defending against daily oxidative stress caused by UV exposure, pollution, and environmental aggressors.** Naturally present in the skin, this enzymatic antioxidant acts as an early shield, neutralizing reactive oxygen species before they compromise skin integrity, trigger inflammation, or accelerate visible ageing. In skincare applications, SOD helps preserve skin comfort, resilience, and a smoother, more balanced appearance under continuous external stress.



Through advanced microbial fermentation and stabilization technologies, biotech-derived SOD delivers high purity and sustained activity suitable for formulation use in skin care products. By supporting the skin's intrinsic antioxidant network, it helps maintain barrier function, calm oxidative irritation, and protect essential cellular components. This targeted antioxidant defence contributes to improved skin vitality, enhanced tolerance to environmental stress, and long-term preservation of youthful skin quality.

PRODUCT DETAILS

INCI name:

Superoxide Dismutase

Recommended dosage:

0.2–0.5%

Appearance:

**Off-white powder or
clear aqueous solution**

APPLICATIONS :



Anti-ageing &
anti-wrinkle creams



Barrier-repair
formulations



After-sun care



Dark spot treatment



Brightening
mist



Sensitive-skin
solutions



Acne correcting
cream



Tone balancing
serums

KEY FEATURES :

- Stable across wide range of pH and temperature – providing convenience in the formulation processing.
- Proven erythema reduction: clinical studies show reduced redness when applied after UV exposure
- Free from allergens and toxic skin irritants.
- Vegan, cruelty-free, and eco-sustainable biotechnology origin
- Biotechnologically stabilized enzymatic antioxidant for next-gen skin defence
- Targets oxidative stress at the source helps prevent downstream damage linked to inflammaging

WHAT IT BRINGS TO YOUR FORMULATION :

- Effective at low use levels (0.2–0.5%)
- Compatible with serums, emulsions, gels, and sun care
- Biotechnologically derived, vegan, and eco-conscious

EFFICACY STUDIES :

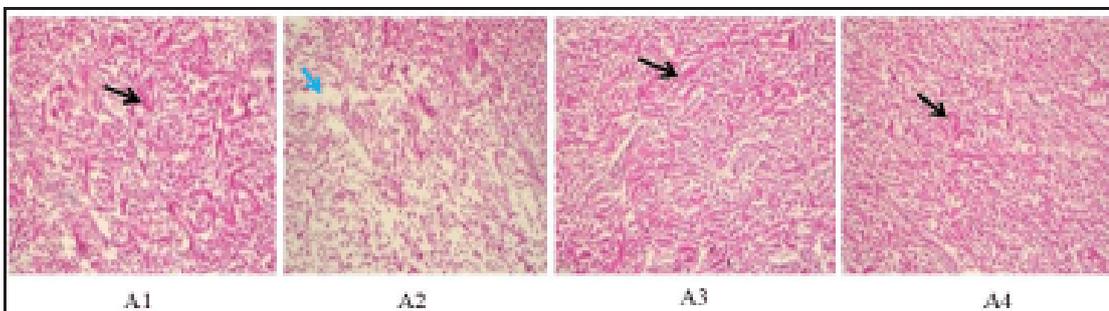


Fig 1: Liposomal SOD Extract (A3) is able to protect and visibly ameliorate the effect of UV induced collagen disorganization of Rabbit Skin as compared with untreated control (A2). The efficacy of the test treatment is comparable with normal and undamaged skin (A1) and the positive control (A4) [1].

PROVEN BENEFITS :

- Provides antioxidant and anti-inflammatory protection.
- Demonstrated protection and recovery against UV-induced skin damage.
- Imparts excellent antiaging property through collagen remodelling.

[1] Nurfitriyawatie, Nurfitriyawatie, et al. "Antiphotogeing effects of liposomal encapsulated superoxide dismutase extract of *Bacillus altitudinis* on ultraviolet-A-irradiated New Zealand rabbits' back skin." *Journal of Applied Pharmaceutical Science* 13:7 (2023): 144-150.