

N-Acetyl Glucosamine

BIOTECH EDGE

Engineered through biotechnological innovation, N-Acetyl Glucosamine redefines radiance by working in sync with the skin's natural biology. **As a bio-intelligent precursor of hyaluronic acid,** it enhances hydration, refines texture, and corrects uneven tone without irritation. Its gentle yet powerful molecular action transforms biotech precision into visibly smoother, brighter, and more resilient skin.



N-Acetyl Glucosamine (NAG) is a naturally occurring amino sugar present in human skin and a biological precursor to hyaluronic acid, the **key polymer responsible for the skin's hydration and elasticity.** In skincare, **NAG functions as a bio-derived active** that helps even out skin tone, restore smoothness, and strengthen the moisture barrier.

NAG supports a visibly brighter and more uniform complexion by **reducing excess melanin formation** and promoting healthy skin renewal, resulting in a smoother, more luminous, and even-toned appearance.

PRODUCT DETAILS

INCI name:

N-Acetyl Glucosamine

Recommended Dosage:

1 – 5 %

Appearance:

White crystalline powder
Water-soluble

APPLICATIONS :



Brightening & radiance
boosting serums



Hydrating & barrier
repair moisturizers



Sensitive skin & post
procedure formulas



Gentle resurfacing
products



Daily tone-correction and
anti-spot treatments

KEY FEATURES :

- Biotech-derived, eco-sustainable active ingredient
- Dual action - brightens and calms skin simultaneously
- Supports synthesis of skin's own Hyaluronic Acid formation.
- Non-acidic, non-photosensitizing alternative to traditional exfoliants
- Ideal for clean-beauty and dermo-cosmetic formulations

WHAT IT BRINGS TO YOUR FORMULATION :

- Infuses your formulation with biotech-intelligent radiance a gentle brightening action paired with deep hydration.
- Enables acid-free exfoliation, making it ideal for sensitive-skin and daily-use ranges.
- Enhances formulation performance by improving tone uniformity, skin clarity and comfort.
- Demonstrates excellent synergy with other bioactive such as Niacinamide for better results

EFFICACY STUDIES :

Pigmentation Reduction and Anti-inflammatory

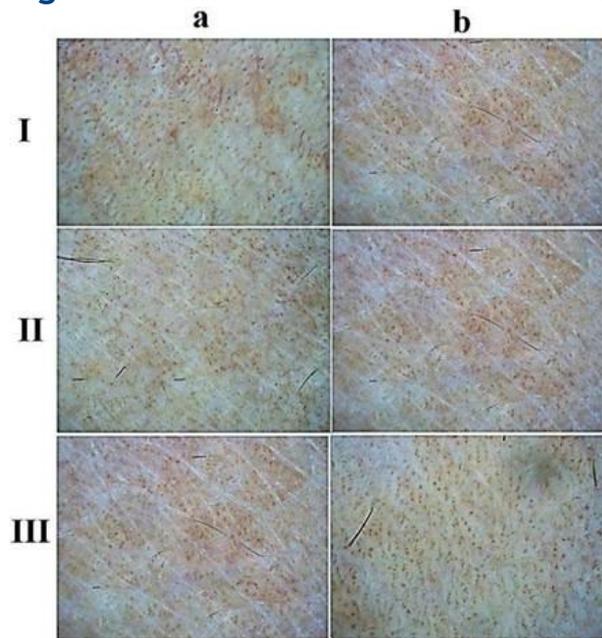


Fig 1: Polarized dermoscopy images of human skin taken pre-treatment (a) and at week 8 (b). Panels I-III correspond to NAG-loaded NLCs (I), blank NLCs (II), and NAG solution (III) [1].

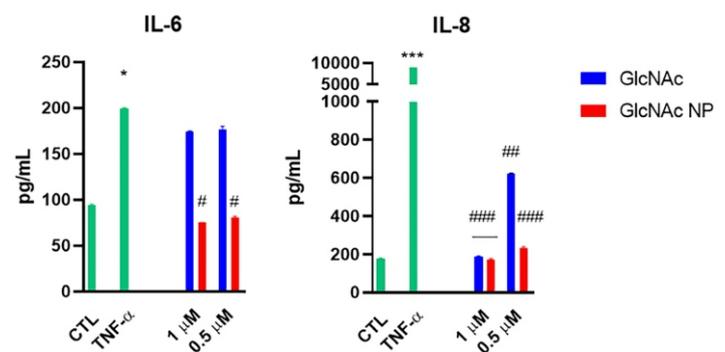


Fig 2: Both NAG (GlcNAc) and NAG Nano-particles (GlcNAc NP) reduced the levels of inflammatory markers (IL-6 and IL-8) in TNF-α stimulated cultured cells (in vitro). Both treatment groups displayed reduction in interleukin levels compared to non-treated set [2].

PROVEN BENEFITS :

- Regular topical use visibly reduces uneven pigmentation and dark spots, revealing a clearer, more uniform tone.
- Calms skin by modulating inflammatory agents
- Well tolerated on sensitive skin, providing brightening benefits without dryness or irritation.

References:

[1] Aliasgharlou, Lavin, et al. "Nanostructured lipid carrier for topical application of Nacetyl glucosamine." *Advanced pharmaceutical bulletin* 6.4 (2016): 581.

[2] Mariano, Alessia, et al. "The formulation of the N-Acetylglucosamine as nanoparticles increases its anti-inflammatory activities: an in vitro study." *Bioengineering* 10.3 (2023):343.