

Pyrroloquinoline Quinone (PQQ)

BIOTECH EDGE

PQQ represents the next generation of bioactive innovation rooted in **cellular biotechnology**. Originally discovered as a redox cofactor in microbial systems, it is now recognized as a breakthrough molecule in skin bioenergetics. **Through advanced fermentation and purification technologies**, PQQ is harnessed for its ability to support mitochondrial vitality, the cellular center of skin renewal.



By enhancing cellular energy pathways and reducing oxidative stress at its source, this biotech-derived antioxidant helps protect skin cells and support visible rejuvenation, firmness, and long-term skin health. Its stability and water solubility make it suitable for modern skincare formulations targeting dullness, fatigue, and early signs of ageing.

PRODUCT DETAILS

INCI name:

**Pyrroloquinoline Quinone
Disodium Salt**

Recommended dosage:

0.01–0.1%

Appearance:

**Reddish-orange to
dark red powder**

APPLICATIONS :



Anti-aging creams
and serums



Skin rejuvenation
treatments



Post-procedure
skincare



Moisturising and
hydrating gel



Brightening
cream



Wrinkle and fineline
reduction formulation

KEY FEATURES :

- Protects skin from oxidative stress at mitochondrial level.
- Promotes long term skin barrier maintenance.
- Broad stability across a wide pH range, enabling enhanced formulation flexibility
- Reduces early signs of aging and environmental damage impact.

WHAT IT BRINGS TO YOUR FORMULATION :

Advanced cellular-level antioxidant protection

Boosts collagen and elastin expression

Enhances skin resilience and texture

Supports skin barrier and hydration

Reduces appearance of fine lines and fatigue

Cellular energy restoration for rationslized skin

EFFICACY STUDIES :

Anti-oxident and Anti-aging Efficacy

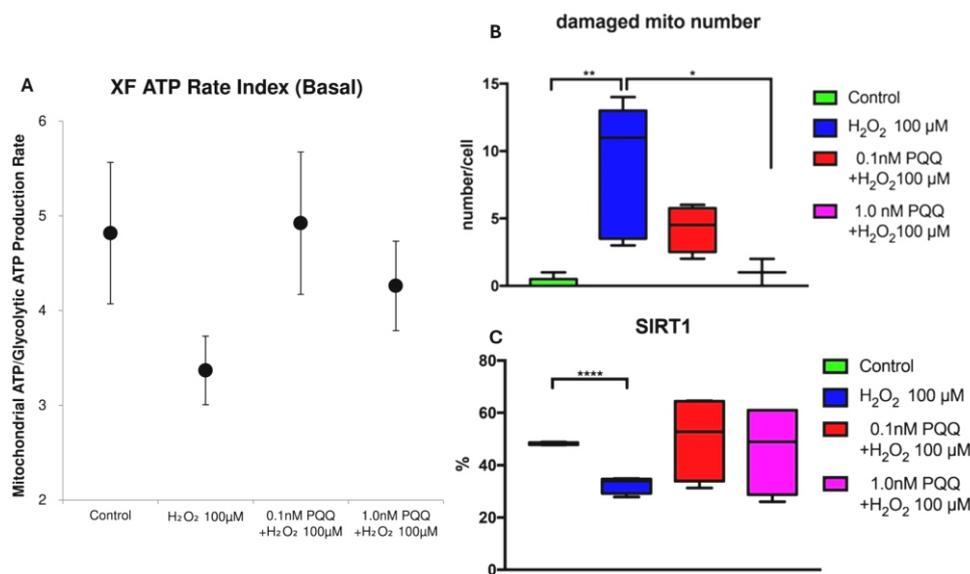


Fig 1: Exogenously supplemented PQQ is able to recover the mitochondrial metabolism of cultured mouse cell lines (in vitro) to replenish ATP pools under oxidative stress manifested by H₂O₂ [A]. PQQ also displayed excellent mitochondrial protection [B] and upregulation of SIRT1 protein expression [C] under similar oxidative stress conditions confirming antiaging potential of PQQ [1].

PROVEN BENEFITS :

- Neutralizes the effects of ROS generated UV and pollutants to maintain normal functioning of skin cells
- Protects against depletion of ATP levels to maintain healthy looking skin
- Repairs and restores mitochondrial function to mitigate stress induced skin ageing
- Improves the formation of cells own anti-ageing factors resulting in younger looking skin

[1] Gao, Ying, et al. "Pyrroloquinoline quinone (PQQ) protects mitochondrial function of HEI-OC1 cells under premature senescence." *npj Aging* 8.1 (2022): 3.