

# A ROBUST PROTEIN NANOMATERIAL FOR PHARMACEUTICALS AND COSMETICS

*This novel technology offers a robust protein-based nanoparticulate material of controllable size via physical size reduction approach. Common features that a pharmaceutical or a cosmetics must have can be listed as operational stability, bioactivity, bioavailability, operational stability and hydrolytic stability – therefore many efforts are being directed towards the establishment of these features. The developed approach results in enhanced characteristics. The crosslinked proteins that are being offered by this technology have proven to be longer-lived, more easily recoverable, and more stable when compared to the corresponding individual proteins in solution. Therefore, these nanoparticles can replace the role of many solution-phase proteins as well as micron-sized crosslinked protein particles.*

## Potential Applications

This technology is applicable in the following industries:

- Biotechnology;
- Biomedicine
- Pharmacy
- Biomaterial Cosmetics

## Customer Benefits

Industrially adoptable, easily scalable, and conveniently controllable method

- High bioavailability for pharmaceutical purposes
- Remarkable hydrolytic stability – hence new avenues for absorption into the body
- High bioactivity due to their favorable surface and diffusion/mass-transport characteristics
- Improved operational stability due to the crosslinking effect



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## Technology Features & Specifications

Crosslinked nanosized protein associations have been prepared for very specific applications using only a bottom-up assembly approach. This technology also addresses this issue by describing the preparation of crosslinked protein nanoaggregates. Using readily preparable starting materials conveniently controllable. Hence, large amounts of crosslinked protein nanoparticles can be prepared controllably and conveniently by means of this invention.

## Market Trends and Opportunities

Operational stability, bioactivity, bioavailability, operational stability and hydrolytic stability are important features required in pharmaceuticals and cosmetics products. The cross-linked proteins that are being offered by this technology have proven to be longer-lived, more easily recoverable and stable when compared to the corresponding individual proteins in solution.

