

CD Bioparticles Announces Advanced Cellulose Nanoparticles for Multiple Biomedical Applications

CD Bioparticles announces the launch of its new line of Cellulose Nanoparticles.

NEW YORK, NY, UNITED STATES, February 22, 2025 /EINPresswire.com/ -- With years of experience in the pharmaceutical and life science sectors, [CD Bioparticles](#) announces the launch of its new line of [Cellulose Nanoparticles](#), including bacterial cellulose, cellulose nanocrystals and cellulose nanofibrils. These innovative nanomaterials exhibit exceptional mechanical properties, biodegradability, and versatile surface functionality, making them suitable for the preparation of bio-nanocomposites used in antibacterial agents, antifouling, wound healing, drug delivery, tissue engineering, and bone regeneration.

Cellulose nanoparticles have attracted much attention in recent years due to their impressive mechanical properties and nanoscale size, which results in an extremely high surface area to volume ratio. Chemically, cellulose is a linear homopolymeric glycan consisting of β -D-glucopyranose units linked by β -1,4 glycosidic linkages containing a large number of hydroxyl groups.

These hydroxyl groups and their hydrogen bonding capacity play an important role in crystalline stacking and control important physical properties of these highly cohesive materials. They are well suited for surface functionalization and are ideal for improving the mechanical properties of host materials. In addition, they offer several other advantages such as low cost, low density, renewability, biodegradability, a wide variety of fillers available, low energy consumption, high performance and low abrasiveness during processing. All these characteristics make them suitable for a wide range of applications, such as the preparation of bio-nanocomposites for antimicrobial agents, antifouling, wound healing, drug delivery, tissue engineering and bone regeneration.

Aqueous suspensions of cellulose nanoparticles can be converted into cellulose nanofibres by mechanical treatment or into cellulose nanocrystals by acid hydrolysis of biomass. With sustainable and high-performance solutions for various industries, CD Bioparticles offers a wide range of cellulose nanoparticles including Bacterial Cellulose (BC), Cellulose Nanocrystals (CNCs), and Cellulose Nanofibrils (CNFs), each tailored to specific application requirements. These nanoparticles possess remarkable characteristics, including high strength and modulus, low thermal expansion, and transparency. Their surface functionality enables easy modification,

further expanding their application potential.

For example, CD Bioparticles offers a wide range of bacterial cellulose to meet the needs of its customers and also provides medical grade, material grade, food grade bacterial cellulose sheets and commercial bacterial cellulose. As a bio-based material with high purity and unique physicochemical properties, and offering high performance at low cost, BC has been used in a wide range of applications in the food industry, biomedical field, bio-based polymers and nanocomposites preparation and other fields. They are highly biocompatible and biodegradable and are easier to be functionalized. As bacterial cellulose composites with antimicrobial and antibiofilm activity, this natural hydrogel has promising applications.

CD Bioparticles strives to provide researchers and manufacturers with the highest quality Cellulose Nanoparticles for various biomedical applications. For detailed product information, technical support, and ordering information on the CD Bioparticles, please visit <https://www.cd-bioparticles.com/products/cellulose-nanoparticles-1133.html>.

About CD Bioparticles

CD Bioparticles is a leading manufacturer and supplier of various nanoparticles, microparticles, and coatings for R&D as well as commercialization across different application areas, including in vitro diagnostics, biochemistry, cellular analysis, cell separation, and immunoassay. The company also offers various custom services, including chemical surface-functionalization, fluorescent modification, antibody immobilization, as well as nucleic acid and oligo conjugation to meet client specifications.

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CD Bioparticles

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