

Nanotechnology and nanomaterials solutions for COVID-19: Diagnostic testing, antiviral and antimicrobial coatings and surfaces, air-borne filtration, facemasks, PPE, drug delivery and therapeutics

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Abstracts

Nanotechnology and nanomaterials can significantly address the many clinical and public healthcare challenges that have arisen from the coronavirus pandemic. This analysis examines in detail how nanotechnology and nanomaterials can help in the fight against this pandemic disease, and ongoing mitigation strategies. Nano-based products are currently being developed and deployed for the containment, diagnosis, and treatment of Covid-19.

Nanotechnology and nanomaterials promise:

Improved and virus disabling air filtration.

Low-cost, scalable detection methods for the detection of viral particles

Enhanced personal protection equipment (PPE) including facemasks.

New antiviral vaccine and drug delivery platforms.

New therapeutic solutions.

Report contents include:

Market analysis of nano-based diagnostic tests for COVID-19 including nanosensors incorporating gold nanoparticles, iron oxide nanoparticles, graphene, quantum dots, carbon quantum dots and carbon nanotubes. Market revenues adjusted to pandemic outcomes. In-depth company profiles. Companies profiled include Abbott Laboratories, Cardea, Ferrotec (USA) Corporation, E25Bio, Grolltex, Inc., Luminex Corporation etc.

Market analysis of antiviral and antimicrobial nanocoatings for surfaces including fabric (mask, gloves, doctor coats, curtains, bed sheet), metal (lifts, doors handle, nobs, railings, public transport), wood (furniture, floors and partition panels), concrete (hospitals, clinics and isolation wards) and plastics (switches, kitchen and home appliances).

Market revenues adjusted to pandemic outcomes. In-depth company profiles. Companies profiled include Advanced Materials-JTJ s.r.o., Bio-Fence, Bio-Gate AG, Covalon Technologies Ltd., EnvisionSQ, GrapheneCA, Integricote, Nano Came Co. Ltd., NanoTouch Materials, LLC, NitroPep and many more.

Market analysis of air-borne virus filtration including photocatalytic Nano-TiO₂ filters, nanofiber filters, nanosilver, nanocellulose, graphene and carbon nanotube filtration. Market revenues adjusted to pandemic outcomes. In-depth company profiles. Companies profiled include G6 Materials, Daicel FineChem Ltd., NANOVIA s.r.o., Toray Industries, Inc., Tortechn Nano Fibers etc.

Market analysis of nano-based facemask and other PPE products. Market revenues adjusted to pandemic outcomes. In-depth company profiles. Companies profiled include planarTECH LLC, RESPILON Group s. r. o., SITA, Sonovia Ltd. etc.

Nanotherapies and drug delivery vehicles currently being produced and clinical trials of vaccines for COVID-19. Market revenues adjusted to pandemic outcomes. In-depth company profiles. In-depth company profiles. Companies profiled include Arcturus Therapeutics, Inc., Arbutus Biopharma, BlueWillow Biologics, Elastrin Therapeutics Inc., EnGeneIC Ltd. etc.

Key scientific breakthroughs and developments that are underway right now.

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