

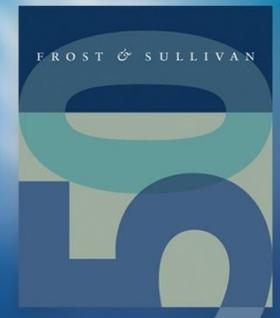
# Nanotech (TechVision)

## Nanotechnology Innovations for Healthcare

*Nanoscale medical devices, particles, diagnostic tools, and drug-delivery technologies will improve future public health, and provide effective new means to fight cancer*

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# Nanotechnology Innovations for Healthcare

# Bioengineered, Nanotechnology-Based Sunscreen

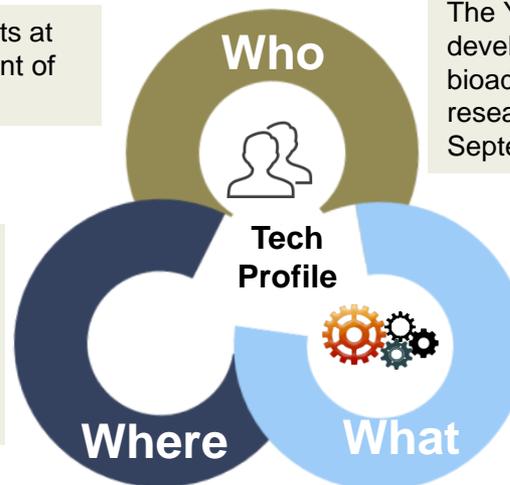
*Yale University, New Haven, Connecticut, USA*

## Unmet Needs /Trends

- Many sunscreens fail to offer proper broad-band UVA/UVB protection to human skin, to forestall skin cancer
- ....

A research team of scientists at Yale University's Department of Dermatology ...

Yale University, hundreds of years old, is located in southern CT and is an original member of the "Ivy League" of Northeast US universities



The Yale researchers have developed a sunscreen utilizing bioadhesive nanoparticles. The research was published in a September ...



After favorable human clinical trials, this sunscreen could be marketed by

## Potential Applications

- The applications for humans are well understood—skin protection
- ...

## Innovation Attributes

The key innovation is encapsulation of UV-blocking compounds within bio-adhesive nanoparticles that attach to skin quite well, adherent one or more days before falling off. Skin is not penetrated

## Future Plans

The researchers want to move beyond favorable mouse trials to 3-stage FDA-supervised clinical trials. These trials must show effectiveness in the sun with no skin irritation, or other ill effects

## Analyst Insights

TechVision is impressed by innovations such as this that can address unmet needs and improve the health of millions of people by helping to block insidious skin cancers, including : dangerous and aggressive melanoma, squamous cell carcinoma , and basal cell carcinoma

## Funding

Yale's work appeared to be self-funded. However, the investment of a major skin-care company could cover further funding

# STRATEGIC INSIGHTS

# Strategic Insights

## Drivers

- ✓ Long-term national goals to promote improved wellness of the population.
- ✓ ...

## Challenges

- ✗ Nanomedicine is burdened by the lack of proof for effectiveness and safety.
- ✗ ..

## R&D Focus Areas

- Development of new drug delivery methods (such as nanoparticles that can directly enter cancer cells on stealthy basis, and deliver killer doses of drugs)
- ....

## Funding & Market Potential



- Large amounts of funding, easily worth hundreds of millions or dollars more over time have been directed to nanomedicine R&D projects
- ...

## The 2020 Scenario

- So many of the nanomedical developments are at such an early stage, and lacking valid clinical trials, TechVision does not expect huge market activity on or before
- ...

# KEY PATENTS