

Healthcare:

Developing the next-generation of exosome-based targeted cancer therapeutics

APPLICATION

We have developed and patented an exosome-based drug-delivery vehicle EXODS to treat breast cancer. It will reduce chemotoxicity of anti-cancer drugs by atleast 50% and target drug-resistant cancer stem cells residing within tumor mass

COMPANY

: EXSURE PVT LTD
Innovator: Abhishek Dutta
Website: <https://exsure.in/>

TECHNOLOGY READINESS LEVEL (TRL)

TRL: 5

INTELLECTUAL PROPERTY

Patent Number: 451254

PROBLEM ADDRESSED

The median cost of developing a single cancer drug is expected to be ~\$648.0 million. But none of these drugs are targeted to the root cause for cancer relapse i.e. cancer stem cells and also non-specifically target the healthy cells of the body causing toxic side-effects of chemotherapy. Although these prohibitively costly drugs effectively target cancer cells and healthy cells. The residual cancer stem cell population (~2% of the total tumor mass) has the potency to regenerate the entire tumor mass leading to tumor relapse. Therefore an effective solution will have to target both cancer cells and cancer stem cells by avoiding non-specific targeting of healthy cells, thereby removing the tumor from 'its root' and reducing side-effects of chemotherapy.

ABOUT THE TECHNOLOGY

We are developing a holistic affordable targeted drug-delivery platform which will not only target cancer cell but also the more resistant cancer stem cells. Our bio-engineered exosomes will be an effective drug delivery vehicle to deliver chemotherapeutic drugs specifically to cancer stem cells and cancer cells. It will revolutionize cancer treatment not only in India but also in other developing economies. Our drug-delivery platform will carry chemotherapeutic drugs specifically to the cancer cell and cancer stem cells, thereby efficiently reducing chemo-induced toxicity and selectively targeting tumor cells.

FUNDS RAISED/ACHIEVEMENTS

- BIG-BIRAC call 17 Awardee
- HDFC Parivartan Social Innovation Startup Fund
- Startup India Seed Fund
- Featured in Top 100 startups in Forbes India by Leap to Unicorn IDFC First Bank
- Featured in Top 20 premium startups by Startup Odisha
- Shortlisted in Top12 startups for Okinawa Institute of Science & technology (OIST) Innovation Startup Accelerator Bootcamp in Okinawa from across the globe

PRODUCT

We have developed and patented an exosome-based drug-delivery vehicle ExoDS to treat breast cancer. It will reduce chemotoxicity by more than 30% and target drug-resistant cancer stem cells.



USP

- Our unique formulation will specifically target cancer stem cells sparing the healthy cells of cancer patient's body.
- It will reduce chemo-induced cytotoxicity.
- It will improve relapse-free survival.

END USERS/CUSTOMERS

Cancer patients / Pharmaceutical companies developing anti-cancer drugs