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ANTIBODY-DRUG COMPLEX: ENHANCED DELIVERY OF ANTI-CANCER THERAPY

THERAPEUTICS

New class of adaptable and efficient antibody-drug conjugates for targeted cancer therapy.

TECHNOLOGY TYPE

Drug Delivery
Antibody and Peptides
Biologics
Small Molecule

STAGE OF DEVELOPMENT

Proof of concept demonstrated through *in vitro* experiments.

IP PROTECTION

Nationalized PCT Pending in the United States and Europe
Bi-Functional Allosteric Protein-Drug Molecules
WO2016094831A1

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TECHNOLOGY SUMMARY

The American Cancer Society states breast cancer is the second most common cancer and second leading cause of death among women in the United States, despite improvements in early detection, treatment, and survival. The preferred treatment involves targeted therapy, which uses selective antibodies and leaves normal cells relatively unharmed. Conventional antibody-drug conjugate technology for breast cancer, however, is limited due to safety concerns about bonding that leads to low antibody concentration. A novel drug-delivery system combines cancer- specific targeting mechanisms with anti-cancer agents without chemical modifications. The conjugate is comprised of an ATP binding domain (ABD), an anti-cancer drug, and a scFv antibody that targets a specific receptor on the surface of a cancer cell. The fused protein captures an anti- cancer agent without creating a chemical bond and then delivers it to a cancer cell. The drug carrier also has intrinsic anti-proliferative properties that increase drug efficacy by depriving the cancer cell of ATP.

FEATURES AND BENEFITS

- Enhances pharmokinetic control.
- Improves drug safety by reducing side effects.
- Provides additional anti-proliferation effects.
- Increases drug specificity and efficacy.

INVENTOR PROFILE

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