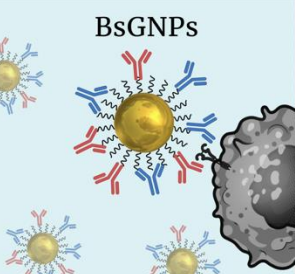


### Introduction

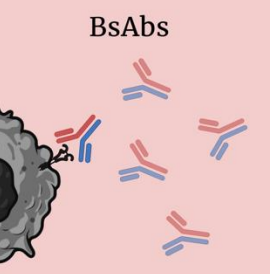
Bispecific antibodies (bsAbs) are emerging as promising new cancer therapies, redirecting immune cells to tumors and blocking tumor survival pathways. However, their clinical use faces various challenges, including complex design, poor pharmacokinetics, limited stability, and limited penetration into solid tumors [1]. This study presents a gold nanoparticle (GNP)-based nanoplatform that harnesses the inherent biocompatibility and tunable surface chemistry of GNPs to enhance bsAb therapies. The resulting bispecific gold nanoparticles (BsGNPs) are designed to overcome current therapeutic limitations and improve overall treatment efficacy.



### BsGNPs

Bispecific Gold Nanoparticles: A Versatile Therapeutic Nanoplatform

- Improves tumor targeting and antibody functionality
- Multifunctional platform - enables delivery of various payloads
- Tunable surface modification
- Boosts immune activation



### BsAbs

### Methods

GNPs were functionalized with trastuzumab and pertuzumab via a PEG linker. The resulting BsGNPs were assessed in breast cancer cell lines for cytotoxic ability (CyQuant analysis) and immune activation (via co-culture with human NK cells and flow cytometry). In a mouse model of breast cancer, BsGNPs were evaluated for tumor accumulation using computed tomography (CT) imaging, and for anti-tumor efficacy by tumor size measurements.

