Liposomal hydralazine that promotes nanoparticle penetration in desmoplastic tumor

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Hydralazine (HDZ) is vasodilator commonly used to treat high blood pressure and heart failure. The targeted liposomes deliver HDZ to tumor stromal cells to locally vasodilate blood vessels in the tumor, allowing for enhanced nanoparticle penetration and following chemotherapy or immunotherapy effect. Nanoparticle-mediated drug delivery holds great promise for cancer treatment. However, the tortuous intratumoral vasculature and the resulting elevated interstitial fluid pressure significantly hinder the use of nanoparticles as potential drug delivery vehicles.

University researchers have developed a targeted liposomal formulation that achieves targeted delivery of HDZ to tumor stromal cells. Liposomal HDZ increased nanoparticle penetration in desmoplastic tumor, and meanwhile also altered immunosuppressive tumor microenvironment, which greatly improved the therapeutic effect of nanoparticle-mediated chemotherapy, as well as immunotherapy.
Advantages:

- Specific cell targeting, avoiding off-target side effect
- Improved drug PK profile, allowing for better therapeutic effect

Related Publications:

- [Vasodilator Hydralazine Promotes Nanoparticle Penetration in Advanced Desmoplastic Tumors](https://doi.org/10.1021/acsnano.8b07830)

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