PURDUE INNOVATES | Office of Technology Commercialization

Plasticizers to Improve Release Performance of Amorphous Solid Dispersions

Novel low-toxicity therapeutics targeting deadly brain-eating amoebas and related pathogens.

Researchers at Purdue University have added plasticizers to amorphous solid dispersions to enable higher drug loadings without compromising release. In some cases, only low drug loadings in amorphous solid dispersions are possible due to poor drug release. This can force tablets to be so large that they cannot be taken by the patient. The plasticizers added by the Purdue researchers improve drug release without the toxicity of surfactants, which have been used in the past to improve release. The plasticizers cause up to a 5-fold increase in the maximum drug loading where good release is achieved.â€‹

Related Publication: Correa-Soto, C.E., Gao, Y., Indulkar, A.S. et al. Release Enhancement by Plasticizer Inclusion for Amorphous Solid Dispersions Containing High Tg Drugs. Pharm Res 40, 777â€“790 (2023). https://doi.org/10.1007/s11095-023-03483-3

Technology Validation: â€‹The plasticizers cause up to a 5-fold increase in the maximum drug loading where good release is achieved. â€‹

Advantages:

- Smaller, more effective drug tablets

Applications:

- Drug formulation

TRL: Pharmaceuticals

Intellectual Property:

Provisional-Patent, 2021-11-03, United States

Technology ID

2022-TAYL-69586

Category

Pharmaceuticals/Drug Discovery & Development
Pharmaceuticals/Pharmaceutical Packaging & Delivery Systems
Pharmaceuticals/Computational Drug Delivery & Nanomedicine

View online page

Utility Patent, 2022-10-25, United States

Keywords: Drug Encapsulationâ€‹, Pharmaceuticals, Plasticizers