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Pharmaceutical Materials and methods for Their Preparation and Use

Pharmaceutical formulations using an API-inclusive single-crystal matrix enhance drug stability, facilitate precise dosing, and allow for varied delivery and sustained-release options.

There is a continuing need for pharmaceutical compositions that are capable of maintaining the quality and efficacy of the active pharmaceutical ingredient (API) during storage and delivery. The loss of potency of an API is a critical concern in assuring that viable, effective drugs are delivered to patients. It is similarly desirable to have formulations that do not require special packaging or handling. Further, it remains a constant goal to provide active pharmaceutical ingredients in a form that facilitates their use by the consumer, such as convenient dosage forms.

Purdue University researchers have developed pharmaceutical formulations that address these and other issues by inclusion of an API in a pharmaceutically acceptable single-crystal matrix. The crystals provide a uniform inclusion of the APIs, and the crystals can, consequently, be used for obtaining a predetermined amount of the API for delivery to a patient. This can also permit the design of quick, delayed, or sustained-release formulations for delivery of the API.

Advantages:

- Utilizes a single-crystal matrix inclusion of APIs to achieve advantageous storage and delivery of the API

- Provides greater stability over time

- Provides alternate delivery and sustained release formulations

TRL: 4

Intellectual Property:

Technology ID
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Category
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