Orally Dissolving Pullulan Capsules and Films

Summary:
This innovation has two forms: a hard capsule that dissolves orally and a film that dissolves orally. The capsules can be filled with a drug formulation containing an active drug or drugs, excipients, and flavors.

Contact Information: Matt Koenig, J.D.
KU Innovation & Collaboration (785)864-1774 mekoenig@ku.edu

Benefits:
- Combines the convenience of tablet dosage formulations with the ease of swallowing provided by liquid formulations.
- Capsules/film can be taken without water, allowing for administration at all times and locations.
- Capsules/film can be used to deliver medicinal agents, nutraceuticals, dietary supplements, and halitosis dissipating agents.
- The orally dissolving drugs will increase bioavailability for compounds absorbed into systemic circulation from the oral cavity.

Applications:
The capsules can be filled with a drug formulation containing an active drug or drugs, excipients, and flavors. The drugs may be intended for local delivery to the oral cavity, esophagus, paranasal sinuses, nasopharynx or nasal cavity or for esophageal delivery to the stomach. These orally dissolving capsules are envisioned to be a universal alternative for the development of immediate release dosage forms.

How it works:
This innovation has two forms: a hard capsule that dissolves orally and a film that dissolves orally. Both forms are comprised of Pullulan, a natural, viscous, water-soluble polysaccharide extracellularly produced by growing certain yeasts on starch syrups. The benefit of using pullulan is its tasteless edible characteristics.

This invention allows for flexibility in using the hard capsules filled with a variety of drug formulations, nutraceuticals, dietary supplements, and halitosis dissipating agents. The film can also be laced with a variety of drugs. The drugs can be combined with flavoring agents, excipients or agents to improve organoleptic properties and efficacy. The capsules/films can incorporate coloring agents to distinguish between internal components.

The hard capsule format is mechanically stronger than other similar products, but retains the relatively short capsule dissolution times. The film disintegrates in saliva, thus providing an alternative route to drug ingestion besides chewing, drinking, or swallowing.

Patents:
US 8,105,625

Additional Web Content:
Contact the inventors, John Haslam, Roger Rajewski.