



What is Purcison™?

Purcison is Critech's patented drug delivery platform for developing and formulating drugs for local targeted delivery. It is a proven particle engineering technology to develop NCEs as well as reformulate and repurpose existing drugs for multiple routes of administration, yielding improved efficacy and safety.

Unprocessed Drug



Purcison Technology



Processed Drug



Better Products



Purcison™ Particle Engineering

Critech can modify particle characteristics such as size, shape, and morphology by adjusting the properties of the feed solution and operating parameters of the platform.

- Solvent selection
- API concentration
- Temperature
- Pressure
- Solution/feed flow rate
- scCO2 flow rate
- Ultrasonic energy
- Nozzle configuration

Micronization: Is smaller always better?

Conventional dissolution improvement models focus on reducing particle size to increase surface area thus improving dissolution and bioavailability. Critech's patented Purcison™ technology shows smaller is not always better. Purcison™ enables us to modify crystal form and particle shape, as well as particle arrangement. Adding these variables gives us **greater flexibility** and more control in achieving **desired particle design** and **target product profile**.

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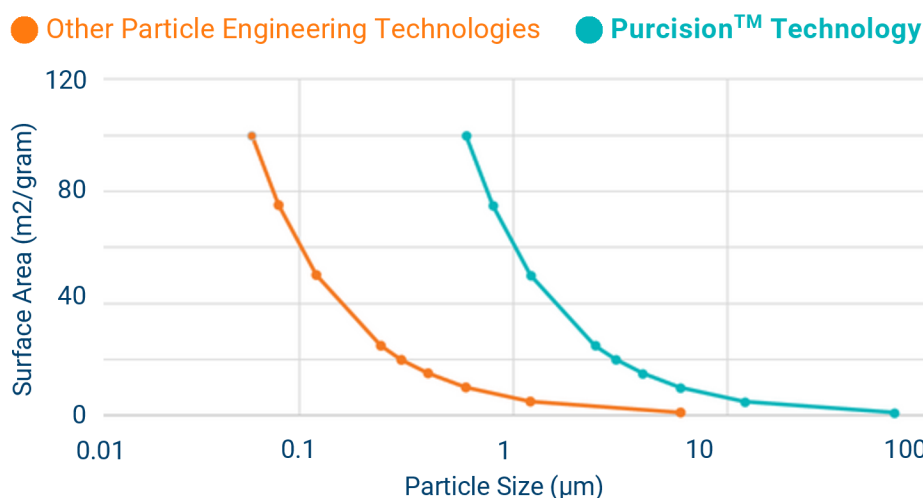


Purcison™ Particle Engineering

Unique Advantage: Targeted Delivery

Our patented Purcison technology and extensive drug development and formulation experience enables us to engineer particles with disproportionate surface area to particle size ratio, creating our unique advantage for local, targeted delivery of drugs.

- Long Duration
- High Concentration
- Limited Systemic Exposure
- Ultra-High Drug Load 100%



Particle Characteristics

- Small Physical Particle Size Dv_{50} (Volume) = ~ 0.5 to $5\mu m$
- High Specific Surface Area = $> 20m^2/g$
- Low Bulk Density = $< 0.1g/cm^3$
- Uniquely shaped and structured particles formed in a narrow size range
- Ultra-high drug load particles are pure drug- no excipient necessary but can be used to achieve target product profile
- Particles are normally crystalline but can sometimes be new polymorphs or amorphous if desired
- Particles designed to be larger, easier to manipulate particles with the surface area and drug release characteristics of much smaller submicron particles

Key Purcison™ Capabilities and Features

- Potent API (dedicated room, equipment, and air handling system)
- Cytotoxic API (dedicated building, equipment, and air handling system)
- Ideally suited for oxygen and water sensitive compounds
- Ultra-high drug load (API alone or with excipients)
- Excellent production yield ($\sim 95\%$)
- Highly stable particle morphology
- Non-potent API (dedicated room, equipment, and air handling system)
- Non-cytotoxic API (dedicated building, equipment, and air handling system)
- Near ambient processing temperatures
- Continuous manufacturing process
- Milligrams to kilograms
- Fully-validated cGMP equipment

