

The Challenges of Respiratory Treatments

Is smaller better?

Conventional dissolution improvement models focus on reducing particle size to increase surface area and thus improve dissolution and bioavailability. Critech's patented SCP technology shows smaller is not always better.

SCP enables us to modify crystal form and particle shape, as well as particle arrangement. Adding these variables gives us greater creativity and more control in achieving desired particle design.

What is SCP?

SCP is Critech's patented supercritical precipitation platform for drug development. It is a proven particle engineering technology used to develop new drugs and reformulate and repurpose existing drugs for multiple delivery systems.

SCP is particularly effective for engineering particles for inhaled delivery.

How Does SCP Help Respiratory Drug Development?

- The SCP technology is different from other particle engineering technologies (CESS, RESS, spray drying, milling)
- The SCP technology has a unique ability to engineer large particles with surface area of a much smaller particle
- Unique disproportionate surface area to particle size ratio is optimal for local, targeted delivery (e.g., tumor, lung, et. al.)
- The larger size SCP particles allow for retention at target site and large surface area provides effective drug release

SCP Can Help Overcome Challenges Associated With Developing Inhaled Drugs

Attributes

- Crystalline powders
- Low density
- High surface area
- 100% pure drug – no excipients
- Uniform and consistent particles
- Improved flowability

2020 Global Respiratory Diseases Drug Market ~\$90B



Performance

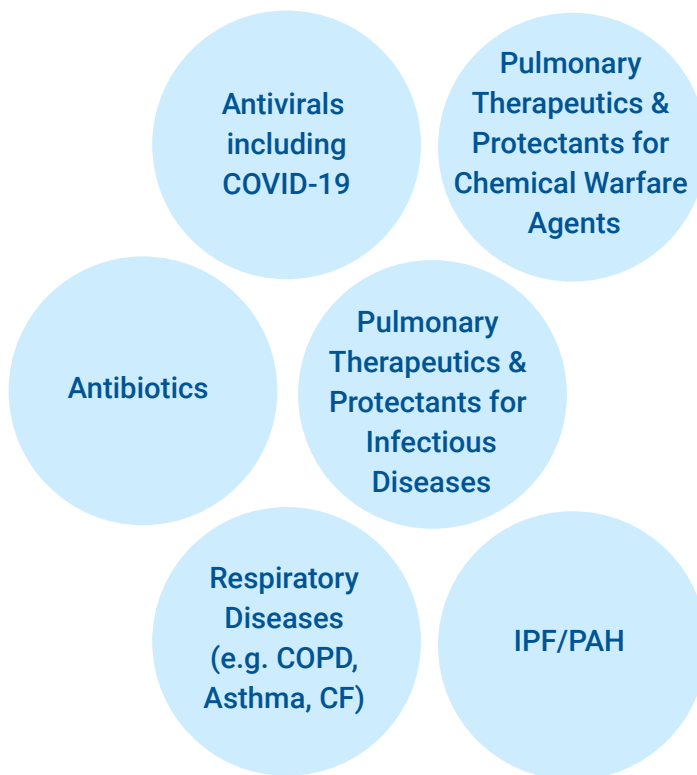
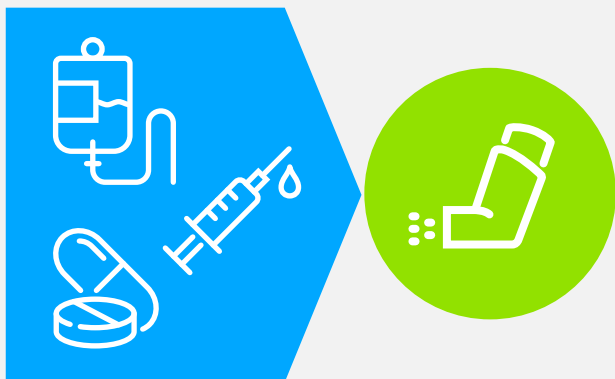
- High drug load
- Long duration
- Avoid phagocytosis
- Highly stable
- Larger particles stick at site of administration but release drug like smaller particles
- Maximizes flow from DPI

Creating Many Opportunities for Respiratory Drug Development

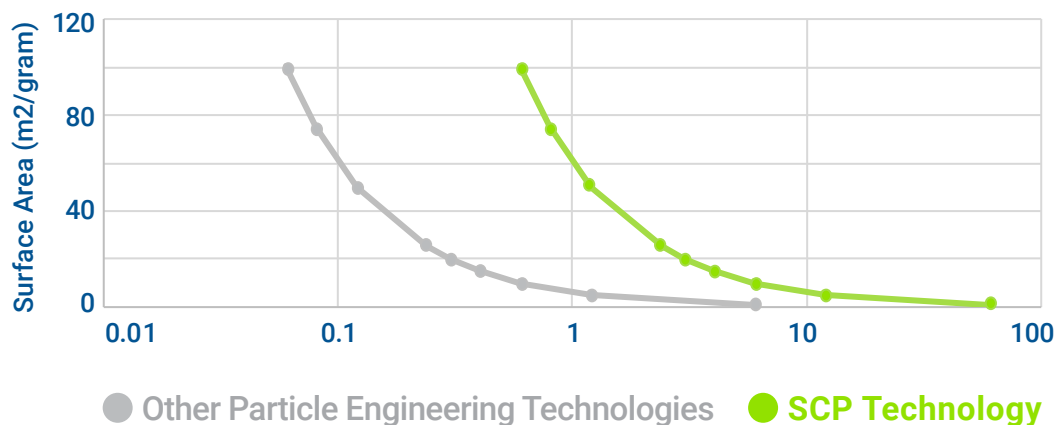
See Next Page 

Critech's Patented Supercritical Precipitation Platform Creates Many Opportunities for Respiratory Drug Development

- Second chance for "shelved" drugs
- Reformulation of current IV and oral drugs for inhaled delivery
- New drugs



Compare the Results



SCP Produces Larger Particles With Higher Surface Area Ideal for Targeted Delivery Into the Lungs