



Coated Wire for Evaporation/Condensation Aerosol Generation of Therapeutic Agents



Researchers at the University of North Carolina at Chapel Hill have developed an aerosol generator device for the delivery and administration of therapeutic agents to the lungs. The technology provides a tunable delivery method capable of generating aerosols at precise particle sizes and at a wide range of flow rates.

Benefits

Benefits of this technology include the following:

- Enables a wide range of delivered doses
- Permits the delivery of therapeutics irrespective of their evaporation temperatures and thermal stability
- Allows lung deposition patterns to be controlled



For More Information

If you would like more information about this technology or UNC - Chapel Hill's technology transfer program, please contact:

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The Technology

Although aerosol delivery to human subjects has been performed routinely for over 50 years, and modified aerosol delivery systems have also been used with animal subjects, delivery systems are still surprisingly inefficient, can be difficult to use, achieve poor targeting, are irreproducible in delivery doses, and are generally inappropriate for newer applications such as gene therapy. Therefore, there remains a long-felt need for novel devices and methods that can produce effective aerosols of therapeutic agents for respiratory delivery to subjects.

Researchers at UNC developed an aerosol generation device with a heatable filament and a coating consisting of a vaporizable carrier and a therapeutic agent. wherein when the filament is heated to at least the vaporization point of the carrier, the carrier vaporizes and releases the therapeutic agent from the composition to thereby form an aerosol comprising the therapeutic agent and the carrier.

This device could be used for the delivery and administration of a wide range of therapeutic agents to both humans and small animals in lung, nasal, buccal, or topical embodiments. In animal applications the technology could be used during preclinical evaluation of therapy efficacy and toxicity.

Opportunity

UNC's Office of Technology Development seeks to stimulate development and commercial use of UNC-developed technologies. UNC is flexible in its agreements, and opportunities exist for joint development, academic or commercial licensing (exclusive, non-exclusive, and field-of-use), publishing, or other mutually beneficial relationships. For this technology, the following intellectual property has been published: US 20080199161.