



## **MatTek's EpiAirway™ Succeeds as Intranasal Drug Research Tool**

### **Faster, Less Expensive Intranasal Drug Studies Using Fewer Lab Animals Now Possible**

MatTek Corp., Ashland, MA, USA, announced that independent research presented at the American Thoracic Society (ATS) Annual Meeting confirmed that MatTek's [EpiAirway™ human cell-derived, 3-dimensional tracheal-bronchial in vitro tissue model](#) can be used to significantly reduce the number of lab animals used in intranasal drug delivery research studies, leading to faster, less expensive research using far fewer animals.

"Dr. Audra Stinchcomb's Group at the University of Kentucky School of Pharmacy performed permeation studies using both EpiAirway and small laboratory animals," said MatTek's Dr. Patrick Hayden, Senior Cell Biologist. "The results of these studies confirmed that, for the pharmaceutical formulations being investigated, there was a high correlation between the permeation characteristics in EpiAirway and in vivo nasal bioavailability in rats. This high degree of correlation also confirms the use of EpiAirway as a model for screening nasal drug absorption of pharmaceutical formulations."

This finding is important because it can significantly change how future intranasal pharmaceutical discovery/ development studies may be conducted. Prior to this finding, the only reliable test method to confirm intranasal permeation characteristics of a proposed pharmaceutical, and therefore its bioavailability in vivo, was via small animal studies of all drug candidates. These studies are time consuming, expensive, complex and necessarily harmful to the animals because of the extensive airway surgery performed on each animal prior to introduction of the drug candidates.

With confirmation that EpiAirway permeation results closely correlate to in vivo nasal bioavailability in the rat, researchers can now screen all of their intranasal drug candidates using EpiAirway prior to performing small animal studies. Only those drug candidates that demonstrate optimum permeation with minimum toxicity will then be tested on animals, significantly reducing the number of animals that need to be sacrificed. This finding does not eliminate FDA-mandated small animal studies, but it does allow researchers to significantly reduce animal testing to a small confirmatory study for FDA review.

**About MatTek** - MatTek Corp., founded in 1985, is an industry leader in tissue engineering. The company manufactures human cell-derived three-dimensional organotypic in vitro tissue models for use in drug discovery/ development, safety assessment, product development/ efficacy, claims substantiation, and target organ research applications in the Pharmaceutical, Biotech, Cosmetics, Personal Care and Household Products industries.

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