

## Intranasal Peptide Delivery

Adrian Goodey, PhD, Principal Scientist  
Merck Research Laboratories, USA

### Abstract

Peptides are an increasingly important class of therapeutic compounds, representing >20% of new drugs in clinical trials. Although peptides have historically been formulated as solutions for injection, poor compliance with injectables combined with advances in enabling technologies continues to fuel interest in alternative routes of administration (ROA). Systemic delivery via the nasal epithelia offers several key advantages. In addition to sparing the peptide from the gastrointestinal tract and first-pass hepatic metabolism, this minimally invasive ROA accommodates a range of formulations, including dry powders. This represents a significant opportunity for peptides whose chemical or physical stability in solution may be limited. Still, considerable challenges for intranasal peptide delivery remain, in particular the limited bioavailability of high molecular weight compounds. This talk discusses the benefits and challenges of intranasal peptide delivery, and highlights formulation and device technology accommodating dry powder formulations.