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**Cover Story**

The leading story of this issue of Drug Discovery Today, by Martin J. O'Neill, Ludovic Bourre, Silvia Melgar and Caitriona M. O'Driscoll addresses how the development of successful nucleic acid-based therapeutic agents is critically dependent upon the concurrent development of effective delivery tools and strategies. They outline the current interest in delivery *via* the gastrointestinal tract and highlight the benefits and drawbacks of delivery using this route. Moreover, the need for appropriate, physiologically relevant *in vivo* and *in vitro* models in achieving the overall goal is reviewed.

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