

# Emerging class of therapeutics represents a coming wave for developers and manufacturers

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After years of research, development and testing, a new class of drugs is emerging on the market with two frontrunners acting as harbingers of what's to come. The cover story in *Chemical & Engineering News*, ACS' weekly newsmagazine, explores the potential of these antibody-drug conjugates (ADCs) and the challenges in developing and manufacturing them.

Ann M. Thayer, senior correspondent at C&EN, explains that ADCs are essentially molecular missiles. They are made up of a toxic payload (a drug) attached to an antibody that specifically seeks out sick cells, such as tumor cells. They don't release their lethal cargo until they reach their target. The advantages of this approach are clear: It spares healthy cells and lowers drug side effects. It can also extend the life of a [drug](#) under an expiring patent or salvage an antibody that was ineffective by itself. ADCs hold a lot of promise. Of the two approved ADCs, one is soon expected to be a blockbuster. About 30 more are in clinical trials with another 100 or more ADCs in the preclinical pipeline. Projections show that by 2018, sales of ADCs could top \$5 billion.

On the manufacturing side, because these drugs are so complex, suppliers are still figuring out how to streamline production. At the moment, ADCs are a niche area of manufacturing with only a few contract manufacturing organizations able to put all the pieces together from start to finish. But many are responding and investing millions to

expand capacity for this promising new class.

**More information:** "Building Antibody-Drug Conjugates"  
[cen.acs.org/articles/92/i3/Bui ... Drug-Conjugates.html](http://cen.acs.org/articles/92/i3/Bui...Drug-Conjugates.html)

Provided by American Chemical Society

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