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The ADC Opportunity Is Expandingâ??So Are the Demands on Development Partners

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At BIO International Convention 2026, Rohtash Kumar, Head of CDMO, Small and Large Molecules at Syngene, discusses why integrated development platforms, multidisciplinary expertise and supply chain resilience will define the future of ADC manufacturing as next-generation biologics become increasingly complex.

As antibody-drug conjugates (ADCs) transition from a promising therapeutic modality to a cornerstone of precision oncology, the industry faces growing pressure to overcome increasingly complex development and manufacturing challenges. Success now depends not only on scientific innovation in antibodies, linkers and payloads, but also on the ability to seamlessly integrate these capabilities across the entire development lifecycle. **Speaking with BioSpectrum Asia during the BIO International Convention 2026, Rohtash Kumar, Head of CDMO, Small and Large Molecules at Syngene,** explains how integrated ADC platforms, next-generation conjugation technologies and resilient global manufacturing strategies are reshaping the future of bioconjugate development. He also shares why multidisciplinary expertise and end-to-end execution will become the key differentiators for CDMO partners supporting the next generation of targeted therapies.

Antibody-drug conjugates continue to attract significant investment globally. What factors are sustaining this momentum, and how do you see the ADC landscape evolving over the next five years?

The sustained momentum behind ADCs reflects a combination of strong clinical validation and rapid technological innovation. Multiple approved therapies have demonstrated that ADCs can deliver highly targeted anti-tumour activity with an improved therapeutic index, reinforcing confidence in the modality among both large pharmaceutical companies and biotech innovators. At the same time, advances in antibody engineering, linker chemistry, payload technologies and site-specific conjugation are expanding the range of addressable targets while improving efficacy and safety.

Over the next five years, we expect ADCs to move beyond their current oncology applications into earlier lines of treatment, combination regimens and potentially non-oncology indications. Innovation will increasingly be driven by next-generation payloads, including targeted protein degraders such as PROTACs, alongside novel conjugation approaches and multispecific constructs. As the science becomes more sophisticated, successful development will depend on integrating expertise across biologics, chemistry, conjugation and translational sciences to optimise the therapeutic

construct as a whole rather than its individual components.

Despite strong clinical interest, ADC programmes continue to face development and manufacturing bottlenecks. Which challenges remain most critical, and how can integrated development models help address them?

ADCs remain one of the most complex therapeutic modalities to develop because they combine three highly specialised disciplines: monoclonal antibodies, highly potent small molecules and bioconjugation. Each has distinct scientific, manufacturing and regulatory requirements. Managing these interfaces across multiple vendors can introduce technology transfer risks, inconsistent data packages and delays that become increasingly difficult to overcome as programmes advance.

An integrated development model helps address these challenges by bringing discovery, process development, analytical sciences, conjugation and GMP manufacturing together within a single quality framework. This enables multidisciplinary teams to identify manufacturability challenges earlier, make more informed scientific decisions and reduce the number of organisational handovers throughout development. Beyond improving timelines, integration enhances programme continuity, reduces execution risk and creates a more predictable path from discovery through clinical manufacturing.

Syngene has built an end-to-end ADC platform spanning discovery through GMP manufacturing. What advantages does this integrated approach offer biotech innovators seeking to accelerate timelines and reduce execution risk?

ADC development is inherently multidisciplinary, making integration a significant advantage for biotech companies, particularly those operating with lean internal teams. Syngene's platform brings together antibody discovery, linker and payload development, analytical and bioanalytical sciences, bioconjugation and GMP manufacturing within a single organisation, allowing programmes to progress through development with fewer technology transfers and greater operational continuity.

Beyond simplifying project management, integration enables better scientific decision-making. The interfaces between antibody engineering, linker chemistry, payload selection and conjugation are increasingly where ADC programmes succeed or fail. Bringing these disciplines together allows multidisciplinary teams to optimise the therapeutic construct holistically, identify potential development risks earlier and accelerate progression towards the clinic. Syngene's planned GMP bioconjugation suite further strengthens this integrated model by complementing its existing biologics, payload and linker capabilities to support end-to-end ADC development.

As global biotech companies reassess supply chain strategies and manufacturing partnerships, how are conversations around risk mitigation, resilience and geographic diversification changing?

The conversation has evolved significantly over the past few years. While cost and capacity remain important considerations, sponsors are increasingly prioritising resilience, business continuity and supply chain transparency. They are looking for partners with strong regulatory track records, robust quality systems and the ability to support programmes across multiple stages of development without unnecessary complexity.

At the same time, geographic diversification has become part of a broader risk management strategy rather than an objective in itself. Sponsors are seeking manufacturing networks that reduce dependency on any single region while providing the flexibility to respond to geopolitical uncertainty and evolving market demands. Increasingly, they also value partners that can consolidate capabilities under one roof, reducing technology transfers and providing greater visibility across the development lifecycle.

Looking ahead, what capabilities will distinguish successful ADC development and manufacturing partners in an increasingly competitive global market?

As ADC pipelines become more sophisticated, competitive advantage will increasingly be defined by scientific capability rather than manufacturing capacity alone. Future development partners will need deep expertise spanning antibody engineering, linker chemistry, highly potent payloads, analytical characterisation, bioconjugation and GMP manufacturing, supported by robust quality systems and global regulatory experience.

Equally important will be the ability to support emerging ADC architectures. As the industry explores novel payloads, including targeted protein degraders such as PROTACs, development partners will require broader multidisciplinary expertise spanning medicinal chemistry, protein engineering, pharmacology and translational sciences. Digital technologies and artificial intelligence will also play a growing role in process optimisation and data-driven decision-

making. Ultimately, biotech companies will increasingly seek strategic partners that can optimise the entire therapeutic construct, reduce development risk and accelerate the delivery of next-generation ADCs from discovery through to commercialisation.