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Multi-Specific Ab Analytical Strategies

By Vivienne Raper, PhD - April 12, 2022 0

Credit: Morsa Images/Getty Images

A U.S. biotech company outlined its strategy to *GEN* for bringing multi-specific antibody therapies to market. Ichnos Sciences, headquartered in New York with facilities in Switzerland, is developing antibodies that can bind to multiple different targets for treating cancer.

"We started with a good understanding of monoclonal antibodies (mAbs) and evolved our [technology] platform to advance these complex molecules," explains Sabrina Vollers, PhD, senior team leader and head of functional and pharmacokinetic bioanalytics.

Vollers gave a talk at the annual Bioprocessing Summit Europe last month on manufacturing challenges and analytical solutions for multi-specific antibodies.

"Our success comes down to a global strategy," she explains. "On the bioanalytical side, key to the strategy is working out which assays are needed upfront and, which are needed further along as the project matures."

Method bias is a major challenge that adopting a global strategy can help overcome, continues Vollers. This is where the signal readout from an assay is complicated by target expression levels in cells and/or affinities of the multiple parts of the multi-specific antibody.

"It's not necessarily a roadblock, but it's something to be aware of," she says. "With a developability and risk assessment, you need to know early what you need to do."

According to Vollers, the company's strategy also focuses on using their technology platform to tune the Fc effector function of multi-specific antibodies.

"If you have a platform-based approach, it saves a lot of development time," she tells *GEN*. "It's not necessarily plug and play, but you can focus on more complex function-based assays."

Another prong of their strategy is ensuring their assays have high sensitivity. As multi-specific antibodies often have more than one mechanism of action and can be more potent than mAbs, they are more likely to be formulated at low concentrations, which presents method-specific challenges, points out Vollers, adding that the company keeps all of its development and manufacturing under one roof and share information between teams.

"We keep in the mode of continuous improvement," she says. "We look at every project as a lesson learned. We're constantly streamlining our workflows and making cross-functional developability assessments. That keeps our company agile."