

Table 24: To Outsource (That Test) or Not to Outsource – That Is the Question! (Analytical Testing)

Facilitator: Tami Wu, *Seagen, Inc., Bothell, WA, USA*

Scope:

Analytical testing is considered one of the key elements of overall control strategy in biological product development, manufacturing, and quality control. Not all companies have an infrastructure that is conducive to all types of analytical testing. Developing advanced analytical testing to assess and monitor the critical quality attributes (CQAs) of biological products requires a broader set of expertise and equipment, which may be beyond the internal capacity of pharmaceutical and biotechnology companies. Hence, outsourcing analytical testing becomes a suitable alternative for companies from startup to big biopharma, which allows companies to handle more complex activities, focus on their core competencies, and increase their operational efficiency and productivity.

While outsourcing analytical testing is part of biopharmaceutical companies' product development strategy, there are many challenges to outsource analytical testing effectively or efficiently. A company looking into outsource analytical testing needs to evaluate the pros and cons of in-house testing versus outsourcing. This discussion will explore analytical testing strategies associated with outsourcing and share experience on managing outsourced analytical testing more effectively and efficiently.

Questions for Discussion:

1. What qualities do you look for when evaluating contract testing labs? What are the unique challenges to outsource analytical testing outside of US and EU?
2. What types of analytical tests make the most sense to outsource?
 - a. Method development, method transfer to different testing sites, method validation
 - b. QC IPC, release testing, stability testing
3. Are any 'workhorse' methods being used in place of more expensive assays? What are the trends in current analytical instruments, data analysis, and data retrieval? Are technologies becoming better and easier to use?
4. What are the technical and regulatory challenges with outsourcing of analytical testing? When problems arise at the contract testing lab, how do you facilitate investigations and root cause analysis? What lessons have been learned so far?
5. How do you build effective relationships between sponsor and contract organizations? Are your IT systems connected to outsource testing labs in any cases?

Discussion Notes:

Pre-defined questions are numbered

Ad-hoc questions are italicized

1. What qualities do you look for when evaluating contract testing labs? What are the unique challenges to outsource analytical testing outside of US and EU?
 - Regulatory perspective
 - Important that there's a good working relationship between Contract Test Lab (CTL) & sponsor, especially when there are investigations
 - Might be gap in knowledge between sponsor & CTL because sponsor might not understand specific details of technology
 - CTL might not have method tailored to sponsor's product (CTL platform method)
 - Sponsor still needs to stand behind decisions on testing strategy
 - Common themes observed with CTLs
 - Some CTLs may have expertise that sponsors don't have → benefit because outsource company has more expertise because they have seen more products / have more in-house methods
 - Some issues with CTLs & viral testing not understanding interferences with process-specific samples → can lead to unnecessary investigations (false positives)
 - Sponsors may bring hot topic issues to CTLs & introduce concept that can then be disseminated through industry
 - Ensure Quality Agreement contains details that are not in SOPs
 - Want to review & approve methods, especially if changes
 - What qualities are you looking for with CTLs?
 - Level of Support: CTL sometimes has dedicated team for company (good support) vs. CTL had on-demand support – level of support sometimes based on volume of support required
 - Internal capability: Look to see if there is a commercially available kit that can be brought in-house first
 - Ability to train: can send analysts to CTL to train analysts on complicated methods
 - Engagement: Need as much transparency as possible & buy-in on timelines / sync up with CDMO timelines if testing not at manufacturing site
 - Challenges with outsourcing by region?
 - Testing locally gives advantage in time to transport samples
 - Some reagents/kits not available locally sometimes
 - Technical challenge: instrument not available in region where CTL was located. Had to bring instrument to site & help establish technology

- Smaller company's influence might not be as impactful as larger company
2. What types of analytical tests make the most sense to outsource?
 - a) Method development, method transfer to different testing sites, method validation
 - b) QC IPC, release testing, stability testing
 - Strategic approach: Keep product-specific methods in-house; send platform methods (have lots of experience) to CTLs
 - Small companies might not have a choice: all testing is outsourced
 - *How do you make decisions during real-time release with a CTL?*
 - Not easily. Real time release might not be feasible.
 - Later in lifecycle, could reduce needed review through some sort of CTL qualification process/procedure
 - Need to maintain quality oversight – can't completely delegate to CTL
 - FDA will check on sponsor's monitoring: frequency & risk-based approach, especially review of high-risk PQ attributes
 3. Are any 'workhorse' methods being used in place of more expensive assays? What are the trends in current analytical instruments, data analysis, and data retrieval? Are technologies becoming better and easier to use?
 - Smaller companies may need to rely on less complex methods / workhorse methods & not implement newest technologies
 - Larger companies may develop new technology in house. Some challenges in getting new technology in contract labs (equipment & knowledge gaps)
 4. What are the technical and regulatory challenges with outsourcing of analytical testing? When problems arise at the contract testing lab, how do you facilitate investigations and root cause analysis? What lessons have been learned so far?
 - Look at whether CMOs outsource some of their testing
 - Leads to more complex testing strategy
 - E.g. Still need to make sure that your excipients are of appropriate quality & results are trustworthy
 - Consistency is a challenge: *How do you ensure that CTL continues to perform at the same level?*
 - Rely on quality system to make sure testing lab provides information on invalid rates, esp. on compendial methods → get this in the quality agreement
 - Look at method performance data for product-specific methods that run a reference standard
 5. How do you build effective relationships between sponsor and contract organizations? Are your IT systems connected to outsource testing labs in any cases?
 - Data sharing necessary:

- Use SharePoint to share information; some CMOs can integrate with electronic systems (requires validation & documentation)
- How do you maintain integrity of data when sharing data between CTL & sponsor? → CMO gives copy of data to sponsor; CMO data is source of truth
- Need to maintain oversight
 - Ensure solid agreements that remain current
 - Understand CTL's quality system
 - Audits
 - Verify CTL's work
- *Method transfers: how do you work on transferring methods between testing labs?*
 - Established internally & then transfer to CMO: apply standard transfer paradigms
 - Doesn't necessarily matter where you're transferring to/from: need to demonstrate equivalency. If not demonstrated, need to explain scientific justification