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| **Email #1: Technology Selection** | |
| **Subject** | Bioavailability Technology Selection |
| **Headline** | Do you need help rationally choosing a bioavailability-enhancing technology? |
| **Copy** | A significant fraction of the small molecules in the pharma and biotech development pipeline exhibit low solubility, meaning drug makers need to enhance their solubility if they want to reach the next development phase.  A large number of technologies can help enhance a compound’s solubility, but it is not always transparent on how to choose the best technology.  For pharma & biotech innovators developing low-solubility molecules, working with an experienced and qualified external service provider can help take their compounds to the next level. At Lonza, you’ll partner with experienced scientists and engineers who have in-depth knowledge of solubility-enhancing technologies and proprietary process equipment to address dissolution rate or solubility issues.  To learn more about how Lonza can help move your low-bioavailability compound forward to clinical trials and through to commercial production, download the Technology Selection Executive Summary.  [DOWNLOAD]  Interested in learning more about Lonza’s bioavailability-enhancing technologies? Visit the [Knowledge Center](https://pharma.lonza.com/knowledge-center?q=&Application=Bioavailability%20Enhancement). |
| **Content to download** | Technology Selection Exec Summary |
| **Image(s)** | SDD particles (I can provide an image) |

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| **Email #2: SimpliFiH / Solid Form Services** | |
| **Subject** | Need to rapidly advance challenging molecules to clinic and to market? Lonza Solid Form Services. |
| **Headline** | Optimize your drug substance solid form for drug substance synthesis and compatibility with final drug product form. |
| **Copy** | With drug development timelines shortening across the pharmaceutical industry, it has never been more important to reduce the time between the pre-clinical phase and first-in-human (FiH) studies. To rapidly progress a molecule, it is important to identify the drug substance form such that it is stable and compatible with the final drug product formulation.  SimpliFiH® Solutions is an integrated first-in-human services platform offered by Lonza, specifically designed to reduce Phase I timelines by at least three months compared to traditional approaches. The platform includes an industry-leading solid form selection offer with options for phase-appropriate drug substance and drug product development and manufacturing.  To learn more about how Lonza’s scientists and engineers can help rapidly advance your molecules, download our latest Solid Form Services Executive Summary.  [DOWNLOAD] |
| **Content to Download** | SFS Exec Summary |
| **Image(s)** | Polarized light microscopy image |

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| **Email #3: SimpliFiH® Solutions / Powder-in-capsule** | |
| **Subject** | Phase-appropriate drug product for fast-to-clinic |
| **Headline** | Achieve accelerated first-in-human studies with micro-dosing technology |
| **Copy** | SimpliFiH® Solutions for rapid first-in-human studies incorporates proven micro-dosing techniques for powder-in-capsule (PIC) or powder-in-bottle (PIB) drug product for Phase I (safety) and Phase II (efficacy) studies.  Lonza’s Xcelodose® Precision Powder Micro-dosing systems are utilized for the PIC/PIB approach, which, by avoiding the need for excipients reduces timelines to phase I studies by more than 13 weeks versus blend formulation approaches. Excipient blend content uniformity studies, excipient compatible dissolution methods, testing / releasing of excipients are all avoided.  Xcelodose systems have been designed with the trend towards highly-potent API in mind, with fill accuracy proven to less than 100 mcg. Best practices have been developed via the experience of advancing hundreds of molecules using the PIC/PIB approach.  To learn more about Lonza’s SimpliFiH® Solutions services—designed for integrated drug substance and drug product development and manufacturing for first-in-human studies—and the role that Xcelodose-based micro-dosing can play in rapid advancement of candidate molecules, download our whitepaper.  [DOWNLOAD] |
| **Content to Download** | PIC best practices whitepaper |
| **Image(s)** | Image from Micro-dosing tech brief; PIC/PIB with Xcelodose |

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| **Email #4: HPAPI** | |
| **Subject** | Best practices for developing and manufacturing highly-potent drug substances |
| **Headline** | Digital modeling and simulation and Process Analytical Technology (PAT) help advance highly-potent molecule development |
| **Copy** | Highly potent API (HPAPI) are playing a growing role in the small molecule pipeline due to their usefulness in treating cancer and other indications. As these compounds have a physical and clinical effect at very low dose, they pose potential occupational health risks. Personnel in development and production facilities must be protected at all times from the products they manufacture. The sustainable production of highly potent APIs (HPAPIs) therefore requires specific precautions for operator health and safety on the one hand and for product quality on the other. The CDMO industry has responded with increased contained manufacturing capacity.However, a range of technological tools can help approach the wide variety of HPAPI process development needs. Digital technologies that can help safely and effectively advance HPAPI production at various points in the development process include:   * Digital modelling and simulation * Process Analytical Technology (PAT) * Automated visual assessment and documentation * Virtual and augmented reality * Machine learning and data analysis     For more information about Lonza’s best practices for HPAPI developed over a 20+ year track record, please download the resources offered below.  [DOWNLOAD]  Interested in learning more about Lonza’s HPAPI capabilities? Visit the [Knowledge Center](https://pharma.lonza.com/knowledge-center?q=&Application=HPAPI). |
| **Content to Download** | Repurposed article  [Read our press release](https://www.lonza.com/news/2021-04-23-05-00) (NEW) |
| **Image(s)** | Recent image we have cited as high resolution and engaging – fully gowned technician in HPAPI lab – working in containment suite |