

Addex Therapeutics:

Creating Novel Small Molecule Drugs for
Patients with Central Nervous System Diseases



How Dotmatics' Flexible R&D Data Platform Accelerates Collaborative Development of Allosteric Modulators

Addex Therapeutics, a biotech headquartered in Geneva, Switzerland, is developing novel, orally available small molecule drugs, known as allosteric modulators, to address the unmet needs of patients with neurological disorders, such as Parkinson's, epilepsy, Alzheimer's, PTSD, depression, neurodegenerative conditions, and other central nervous system (CNS) diseases. Compared to orthosteric drugs that directly bind and compete at the active site, allosteric modulators work by creating conformational changes that help regulate binding-site activity; this offers several potential advantages, including greater selectivity, fewer off-target effects, and a better respect of natural physiological rhythm. These novel therapeutic agents hold potential to target receptors once deemed either intractable or only addressable by peptide or protein drugs that may comparatively cost more and have lower compliance than oral drugs.

Addex currently has two drugs in Phase 2 trials. The first, dipraglurant, is a highly selective metabotropic glutamate receptor subtype 5 negative allosteric modulator (mGlu5 NAM). Dipraglurant has demonstrated efficacy in a Phase 2a proof-of-


concept study for the treatment of levodopa-induced dyskinesia associated with Parkinson's disease (PD-LID) and has received orphan drug approval from the FDA. It is believed that, subject to regulatory approval, dipraglurant may offer an innovative and differentiated treatment approach from existing therapies in a number of disease areas where there is a significant need for improved treatment options. The second drug, ADX71149, is being developed in partnership with Janssen, a subsidiary of Johnson & Johnson, as a treatment for epilepsy. This drug is a selective metabotropic glutamate subtype 2 (mGlu2) receptor positive allosteric modulator (PAM). It is currently in a placebo-controlled Phase 2 proof-of-concept clinical trial in patients with focal onset seizures who had suboptimal response to levetiracetam or brivaracetam.

In order to quickly deliver such novel treatment options to patients with CNS diseases, the R&D teams at Addex must be nimble, data-driven, and collaborative. But, as discussed in the following sections, doing such can be challenging when facing complex workflows, huge volumes and varieties of R&D data, and occasional staff departures.

Challenge: Accelerate Innovation via Better R&D Data Management

To best support their innovation, Addex knew they needed to upgrade their scientific data management platform, starting with the way that their data was managed in the old platform. Given the varied targets of their drug discovery projects and normal turnover in scientific staff, research organizations often face issues of misplaced and/or disconnected data. In some cases, only a handful of scientists know the location of certain data, which can impair the necessary open and collaborative environment and turn it into a difficult working process. Eric Gaillard, Head of IT and Facility at Addex, made it his goal to find an R&D platform that would empower all Addex scientists to "query everything, every time, without issue."

Gaillard set out to find an R&D platform that prioritized data centralization, interoperability, sharing, and search. He also wanted a platform that would provide automatic data classification capabilities to support standardized processes, while still being easily configurable to match the specialized workflows for testing allosteric compounds.



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Eric Gaillard,
Head of IT and Facility

Solution: Centralizing and Analyzing Data with Dotmatics Platform

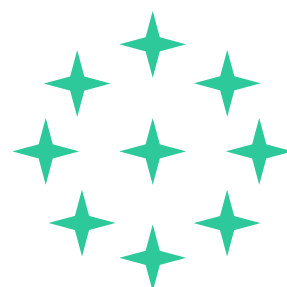
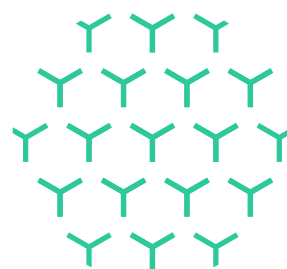
Having been an early customer of Dotmatics in 2007, Gaillard chose to revisit the Dotmatics platform and compare its newest advances against several other providers' solutions. He says, "When we were looking for tools that could address our objectives to centralize and collect our data, manage molecules and inventory, and manage results, Dotmatics was one of the main actors in the market. The Dotmatics system was able to adapt to our precise needs for allosteric modulation, which has some unique requirements. A key point for the success of the project was the consultant who helped us configure the Dotmatics tool to meet our needs." When compared to other providers in the market, Dotmatics offered the technology, flexibility, and personalized attention that made them stand out as the clear choice.

Time Savings via Better Data Management

Today, Dotmatics is used by eleven Addex scientists, who all give its performance exceptional praise. With Dotmatics, data is centralized, easily accessible, and quickly discernable; there are now more controlled processes, so scientists spend less time analyzing data and more time on their next set of experiments. Gaillard estimates that with Dotmatics, **Addex scientists are saving 50% of the time spent previously in data analysis.** He explains, "The main goal in purchasing new software was not to save time, but instead to centralize data and integrate tools in one place. But one of the biggest, unexpected consequences we've seen from integrating Dotmatics is that it saves scientists hours of time spent analyzing data. It's been a nice added benefit."

Improved Process Standardization and Collaboration

Furthermore, Addex scientists are enthusiastic about the way they are able to work more consistently and collaborate more effectively. Gaillard states, "Dotmatics helps the end user correctly analyze data with a more precise process that is less dependent on the end user. It's important because there is less end user influence since everything is analyzed in the same way. It harmonizes the way scientists are working."



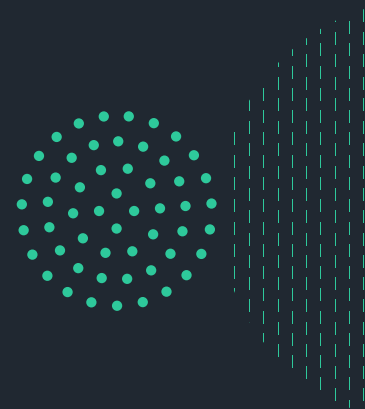
Challenges	Dotmatics Solutions
Outdated and Unsupported Platform Old platform creating issues with data management and non-collaborative workflows.	Modernized Platform A new system developed by and for scientists to ensure productive workflows and help discovery flourish.
Poor Data Management Disparate processes, systems, and lack of order left teams with heavy processes to access, share, and analyze collective research data.	Easy and Manageable Data Flows Scientists united on one system, letting them quickly gather findings and create relationships between experiments.
Time Wasted Analyzing Data Scientists spent considerable time gathering and analyzing data.	Substantial Time Savings Research and development scientists decreased their time analyzing data by 50% enabling them to make breakthrough discoveries faster.

Moving Forward: Broadening the Dotmatics Functionality

The strong working relationship between Addex and Dotmatics was essential to delivering a flexible R&D solution that sets Addex up for success now and in the future. Moving forward, Addex plans to continue to work with Dotmatics to roll out new functionalities that will help their R&D teams improve project interfaces, refine reporting tools, and optimize the analysis of experiment stability by following reference values across experiments. For the Dotmatics team, the collaboration has provided additional insight into how they can develop solutions to meet the complex needs of innovative companies like Addex.



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