

Agilent Case Study: Dako CoverStainer

The First Hospital of Jilin University, Changchun City, China

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Dako

Background

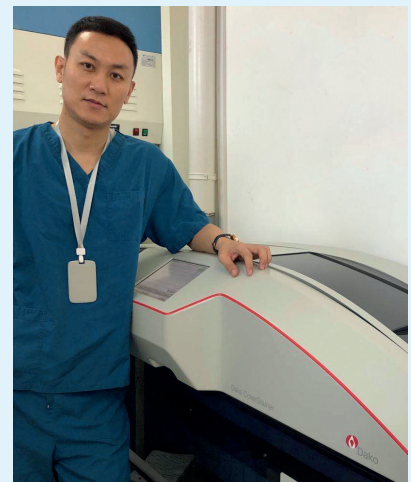
The First Hospital of Jilin University is a 6,000 in-patient bed hospital network located in Changchun City in the Jilin Province of China. Established in 1949, the hospital currently has nearly 5,000,000 clinical visits annually to its 65 locations throughout the province. It was the first hospital in China to be classified as a AAA-class comprehensive hospital, which is the highest rating possible.

The Gastroenterology Department and Endoscopy Center at the hospital is the main specialist for digestive system diseases in the province. They are unique, in that they have an independent pathology lab located in the Endoscopy Center where they run all of the biopsied tissue from the department, around 40,000 specimens and 85,000 H&E slides per year.

The lab was facing challenges with their previous H&E solution, which was costly and wasn't providing them the quick turnaround times they needed. In early 2019, they replaced their old solution with Dako CoverStainer, which could better meet their needs. We interviewed Lab Manager Yu Wang in late 2019 to find out how things were going since adding Dako CoverStainer to their lab.

Efficient H&E through full automation

Dako CoverStainer was designed with LEAN principles in mind. There are no manual steps after loading slides and selecting a protocol, which enables 240 slides to be loaded per hour, with first slides ready after just 46 minutes. The full automation of all of the steps from baking to coverslipping and drying has minimized hands-on time and user interaction and has helped the lab tremendously. "We have benefitted from the convenience brought about by the fully automated process. It has helped us save on time and effort and has allowed our staff to spend more time on clinical work, which can be quite demanding in terms of time," said Dr. Wang. "In addition, since it's fully automated, there is no need to perform coverslipping after staining, thus freeing up manpower and time at this stage to perform other IHC and ISH tasks on our Dako Omnis."



Dr. Yu Wang
Lab Manager
First Hospital of Jilin University
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Another key principle of the instrument is continuous loading and unloading, enabling slides to be ready quickly and consistently throughout the day. "Even when we are shorthanded, we can directly load the slides and the instrument will automatically produce the results, which is highly convenient and makes our work more efficient," said Dr. Wang. "With Dako CoverStainer, we have a clear idea of how much time the entire process takes. If it will take an hour to complete, we come back for the slides in exactly one hour. Our work is therefore made more precise."

Consistent results made easy

Like most labs, the pathology lab at The First Hospital of Jilin University needed H&E that was of a consistently high quality and that met the intensity preferences of their pathologists. Three different reagent intensities with pre-optimized protocols are available for the instrument, and all reagents are fully validated for 3,000 slides or five days of use, whichever comes first.

"This instrument is comparatively stable and reliable in its staining performance and quality. Thus, our clinicians have been able to obtain more accurate slides, and our patients more accurate results," said Dr. Wang. "Compared to our previous instrument, the Dako CoverStainer has a more dynamic loop. From the staining to the coverslipping, it delivers consistent quality, higher diagnostic accuracy and reduced cross-contamination from the first to the final slide. When staining quality remains this consistent, our pathologists are able to apply the same consistent standards in their diagnoses."

Quick to learn and quick turnaround times

The simple user interface and limited user interaction needed with Dako CoverStainer has meant that the instrument has been very easy for the staff to learn to use.

"Learning to use this instrument is rather easy. A simple training session is all it takes before one is able to use it. For us, it was very convenient that our staff was able to start using it within a short timeframe," said Dr. Wang.

The fast turnaround time has also been an important factor in choosing Dako CoverStainer. "Our department believes in fast turnaround times. For us, it is all about speed," said Dr. Wang. "This instrument has significantly reduced the time required for our processes. Since our process is simpler and more convenient, and our patients have been able to obtain their test results more promptly. Only when patients are able to get results faster can they promptly begin their clinical therapies and shorten the hospital bed turnover time."

A good working environment in limited space

The lab's footprint is not huge, so setting it up for maximum efficiency has been challenging. To maximize both space and efficiency, they have set up Dako CoverStainer in the same room as Dako Omnis. "Doing this meant that we could immediately perform the immunohistochemistry procedure right after we are done with the H&E staining. This provides us with great convenience and helps us save on both time and space. It's also meant that we require only one working day to complete the entire process from H&E to IHC diagnosis, with speed and convenience," said Dr. Wang.

Dako CoverStainer has also helped with the lab's environment. "We no longer smell xylene, which is not safe and is not environmentally friendly, as we did before. The smell of xylene is also less noticeable when the process is complete, which is better for the health of the physician. The instrument is also quiet and can be placed in the same room as other instruments, which helps save space," said Dr. Wang.

Summary

When asked what key things he would tell other labs about Dako CoverStainer, Dr. Wang replied, "I recommend the automated Dako CoverStainer when specimen volume is high, given the great pressures exerted with staining, manpower and the physical site if staining manually or with other instruments. Dako CoverStainer helps us save on manpower and material resources, and it allows our doctors and staff to focus more on other tasks with the finite amount of time that they have."

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