

Thawing Samples up to 18 times faster with SPL GUARD Arizona

Broadband Infrared Diagnostics, a company that explores novel routes to early cancer detection with femto- and attosecond metrologies, reports on using the SPL GUARD Arizona in their lab to make the thawing of sample more efficient and ultra-fast.

Herr Dr. Fleischmann is Biorepository Manager at Broadband Infrared Diagnostics near München and conducts research in the field of molecular plant pathology, genetics and cancer biology. For research purposes Herr Dr. Fleischmann mainly processes human plasma and serum samples, but also other sample types like urine. The samples are stored at -80°C . Recently, Fleischmann started using the SPL GUARD Arizona to accelerate the thawing of samples.

Uses and benefits of the SPL GUARD Arizona

For two different applications, Broadband Infrared Diagnostics now uses the Arizona thawing station. One is to thaw 0.50ml aliquots which they receive from clinics. The biorepository was used to thaw a full rack of 96 tubes with 0.5ml aliquots in a water bath of 4°C , which took 1 to 1,5 hours. On top of that, after the water bath, the samples on the sides of the rack where thawed, but the samples in the middle of the rack were still frozen. Using the SPL GUARD Arizona, this thawing process is reduced enormously to only 5-6 minutes. In addition, with the Arizona all samples go through the same temperature treatment when thawing, resulting in consistent thawing of all samples in the rack.

The second application Broadband Infrared Diagnostics uses the SPL GUARD Arizona for, are ongoing measurements with laser spectroscopy. For laser spectroscopy a specific layout of samples is used: 25 samples for measurement and 8 quality control samples in 0.6ml tubes in one SBS-format rack. Without the Arizona thawing took 45 minutes in a water bath of 4°C . Now with the Arizona it only takes 2-2,5 minutes to thaw a full rack.

“The SPL GUARD Arizona stops automatically when the samples reach $+4^{\circ}\text{C}$. This makes the Arizona the best possible device for sample thawing. Results of usability tests were impressive and therefore I would definitely recommend the SPL Guard Arizona to other labs.”

At some point in the process Herr Dr. Fleischmann and his team must decide if they thaw and measure another batch on that day or stop measurements and postpone it to the next day. Before, with the 45 minutes of thawing, they had to make this decision while the previous batch was still running on the laser system, which was prone to error.

Now, with the Arizona they can wait until the laser system is ready. After every batch, a 20-minute cleaning procedure starts on the laser system. With the Arizona it is sufficient to thaw the samples and prepare them for measurement in those 20 minutes. That gains an important benefit in their workflow.

About the SPL GUARD Arizona

The new SPL Guard Arizona is a unique single rack thawing system. It can thaw a complete rack of tubes from -80°C to +5°C in only six minutes. When the desired temperature is reached, the SPL Guard Arizona will stop automatically and confirms this with a beeping sound. The thawing station is compatible with a wide range of SBS-format racks from different brands.

For more information about Broadband Infrared Diagnostics please visit:
www.lex-photonics.de/bird