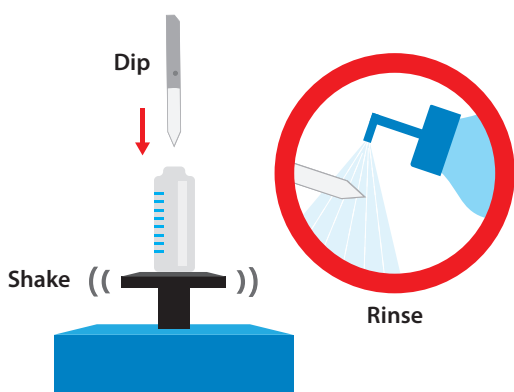


Restek Coated Blade Spray (CBS) Technology – Redefining Rapid-Screening Analysis

WARNING: Not for clinical use. For research purposes only. This device has not been certified as safe for use with biohazardous samples.

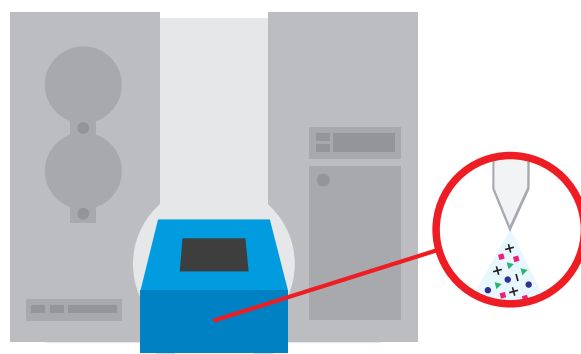
With hundreds—even thousands—of samples awaiting screening analysis in your lab, fast and reliable results are crucial. For many applications, sample preparation coupled with a chromatographic method is used to screen all samples. However, a new technological advancement is changing workflows and offers unprecedented speed to screening applications. Restek is redefining rapid-screening analysis with coated blade spray (CBS) technology. A coated blade is an easy-to-use sample preparation device that couples directly to a mass spectrometer for qualitative or semiquantitative analysis, providing truly rapid screening without the need for chromatography.

What if a Simple Sample Preparation Device...



Analytes of interest are collected by the blade's coating. Larger, matrix-related compounds are not incorporated into the coating and are easily rinsed off prior to analysis.

...Could Go Directly to Analysis via Mass Spectrometry...



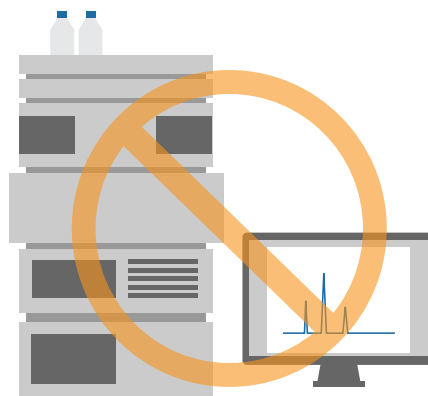
The coated blade with collected sample is coupled directly to a mass spectrometer through an interface. The sample is then ionized via electrospray ionization directly from the blade and analyzed by the MS *in seconds*. Direct-to-MS sample analysis dramatically reduces screening times.

...To Provide Truly Rapid Screening...



With sample preparation taking mere minutes, and analysis time reduced to seconds, the entire workflow allows for an unprecedented rate of data collection, allowing you to quickly identify those samples that require confirmatory analysis via chromatography.

...Without Needing Chromatography for Every Sample?



Save the power of your chromatographic separations for only those samples that need it. After initial screening using a direct-to-MS analysis, all flagged samples can have their results confirmed via an optimized chromatographic separation and MS, MS/MS, or HRMS analysis.

The Future of Rapid Screening

With CBS technology, the same device can quickly and easily collect a sample *and* ionize that sample via electrospray ionization. Rapid screening workflows that once required complex, distinct, sample preparation methods and chromatographic separations are reduced to a few simple steps. And your most powerful analytical tool—chromatography—is reserved for only select samples that need additional analysis.

If your lab performs screening analyses, or if you are interested in finding out more about coated blade spray technology from Restek, sign up at www.restek.com/cbs

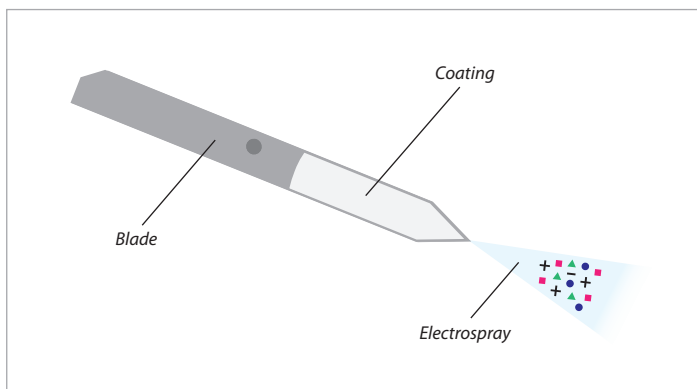
Once you do, we will begin sending you periodic updates on new CBS developments and may also contact you to further discuss coated blade spray or to answer any questions you may have.

What Exactly Is “Coated Blade Spray Technology”?

Simply put, coated blade spray technology is a powerful tool for rapid-screening applications.

COATED Blade Spray Technology

The technology leverages the principles of selective partitioning of analytes of interest from water and other solutions or semisolid samples into a specially designed coating that has been deposited on a stainless-steel substrate. These coatings preferentially allow analytes of interest to partition quickly and effectively from a sample while preventing larger, matrix-related compounds from partitioning into the coating, resulting in a cleaner sample because matrix-related compounds are easily rinsed off prior to analysis. For initial release, Restek coated blades will be offered with a hydrophilic-lipophilic balanced (HLB) sorbent coating. Over time, a wide variety of coatings will be introduced to tailor the technology to different applications.



Coated BLADE Spray Technology

The blade is a precision-machined, stainless-steel substrate for the specialty coating. This robust device has been designed and manufactured to be handled throughout the sample preparation process and, more important, to facilitate the effective ionization of the analytes prior to MS analysis. The stainless-steel blade is able to efficiently conduct the high voltage necessary to generate the electrospray that leads to ionization, and the pointed tip has been engineered to effectively balance the task of loading a sample onto the blade while also creating a properly formed and directed electrospray cone.

Coated Blade SPRAY Technology

What allows CBS technology to be a direct-to-MS tool is its ability to collect and enrich a sample on a device that can also be used to create an electrospray, ionizing the sample, and introducing those ions into the MS for analysis. The formation of the electrospray is a result of the application of high voltage to the stainless-steel blade after a solvent has been added to partition the analytes of interest back into solution. Once the voltage is applied, the solvent forms a classic Taylor cone. Because of the pointed design of the blade tip, the Taylor cone is directed precisely towards the inlet of the MS analyzer, efficiently and effectively creating and transferring ions for mass analysis.

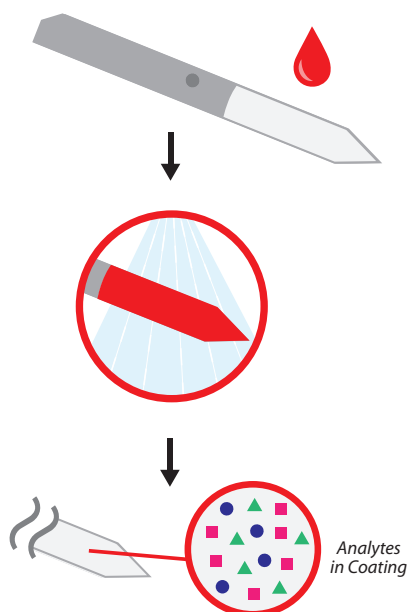
Coated Blade Spray TECHNOLOGY

The coated blades themselves are only a part of the full realization of coated blade spray technology. An ionization interface is required to allow you to couple the coated blade directly with the MS, and Restek is currently developing these CBS interfaces for multiple models of mass spectrometers. Novel multiplexing devices will also allow for the collection and sequential introduction of many samples into the MS, with the goal of automating the entire system to further increase workflow productivity. But, it all starts with a coated blade as the heart of a direct-to-MS technique that will revolutionize rapid-screening analysis.

How Does the Coated Blade Spray Technology Work?

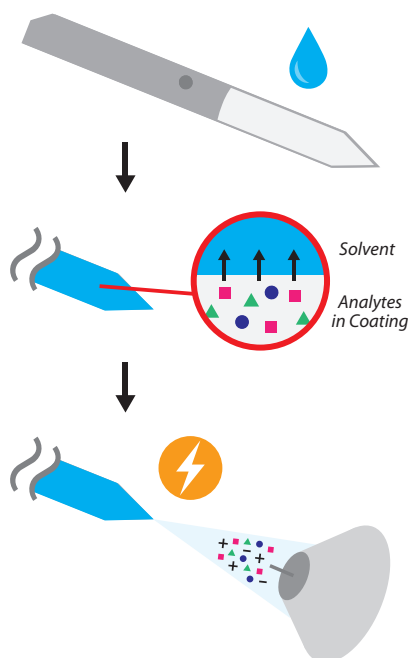
Preparation

Preparation is quick and easy, even for complex samples. Sample can be added to the blade as a drop or the blade can be immersed into a sample and agitated to promote analyte partitioning into the coating. With either method, a high-purity water rinse aids in removing potential matrix components adhered to the surface of the blade and prepares the device for analysis.



Ionization

The blade is placed into a coated blade interface that is coupled with an MS, and solvent is then added to partition analytes back out of the coating and into solution. High voltage is applied to the blade, creating ions via an electrospray ionization process, and the ions are directed towards the MS inlet for mass analysis.



Analysis

Using either modern high-resolution or tandem mass spectrometers, analysis speed is fast enough to effectively screen for many different compounds at once, and the reproducibility of Restek coated blades offers high confidence for each analysis. And, only those samples that are flagged during screening need further chromatographic separation and confirmation, saving your lab even more time and resources.



Be Among the First to Experiment with Restek Coated Blade Spray Technology

Ionization interfaces and a completely commercialized solution are still under development and coming soon from Restek, but blades are available now for experimentation and development. To discuss coated blade spray technology and how you can implement CBS to simplify and speed up your rapid-screening analyses, contact Restek today at

www.restek.com/cbs



23248

ordering notes

Before ordering Restek coated blades, contact us at www.restek.com/cbs or contact your local Restek representative.

Coated Blade Spray Blades

- New, cutting-edge technology accelerates qualitative and semiquantitative rapid-screening analyses.
- Simplified workflow reduces complex methods down to a few fast and easy steps.
- A coated blade couples directly to a mass spectrometer via an ionization interface without the need for chromatography.

Contact us today at www.restek.com/cbs to learn more and be among the first to experiment with Restek coated blade spray technology!

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Restek coated blade spray (CBS) technology accelerates rapid-screening analyses to a new level of efficiency and speed. Based on strong sample extraction and ionization foundations, CBS technology bridges the gap between sample preparation and MS/MS analysis by providing a product that can go directly from the sample to the mass spectrometer. Rapid screening workflows that once required complex, distinct, sample preparation methods and chromatographic separations are reduced to a few simple steps. And, your most powerful analytical tool—chromatography—is reserved for only select samples that need additional analysis.

As a technology on the cutting edge of commercialization, coated blade spray will continue to evolve, but for laboratories interested in evaluating how coated blade spray can revolutionize their analytical workflows, Restek is proud to present the first in a long line of direct-to-MS products to come: the coated CB-HLB blade. A precision-made, stainless-steel blade supports a specially prepared coating of hydrophilic-lipophilic balanced (HLB) sorbent, making the CB-HLB a finely tuned sample preparation product.

Ionization interfaces and a completely commercialized solution are under development and coming soon, but if your lab performs screening analyses, or if you are interested in finding out more about coated blade spray technology from Restek, sign up at www.restek.com/cbs. Once you do, we will begin sending you periodic updates on new CBS developments and may also contact you to further discuss coated blade spray or to answer any questions you may have.

Description	Material	qty.	cat.#
Coated Blade Spray Blades	CB-HLB (Hydrophilic-Lipophilic Balance)	48-pk.	23248