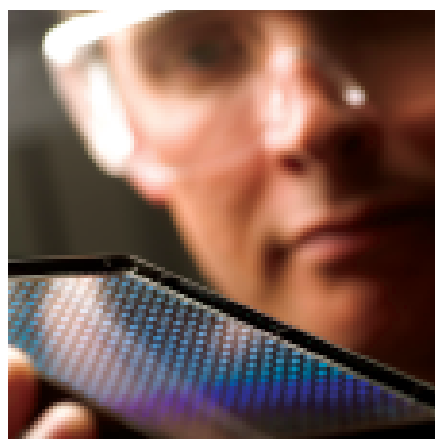
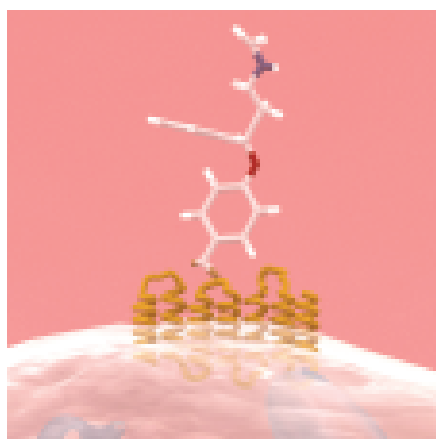
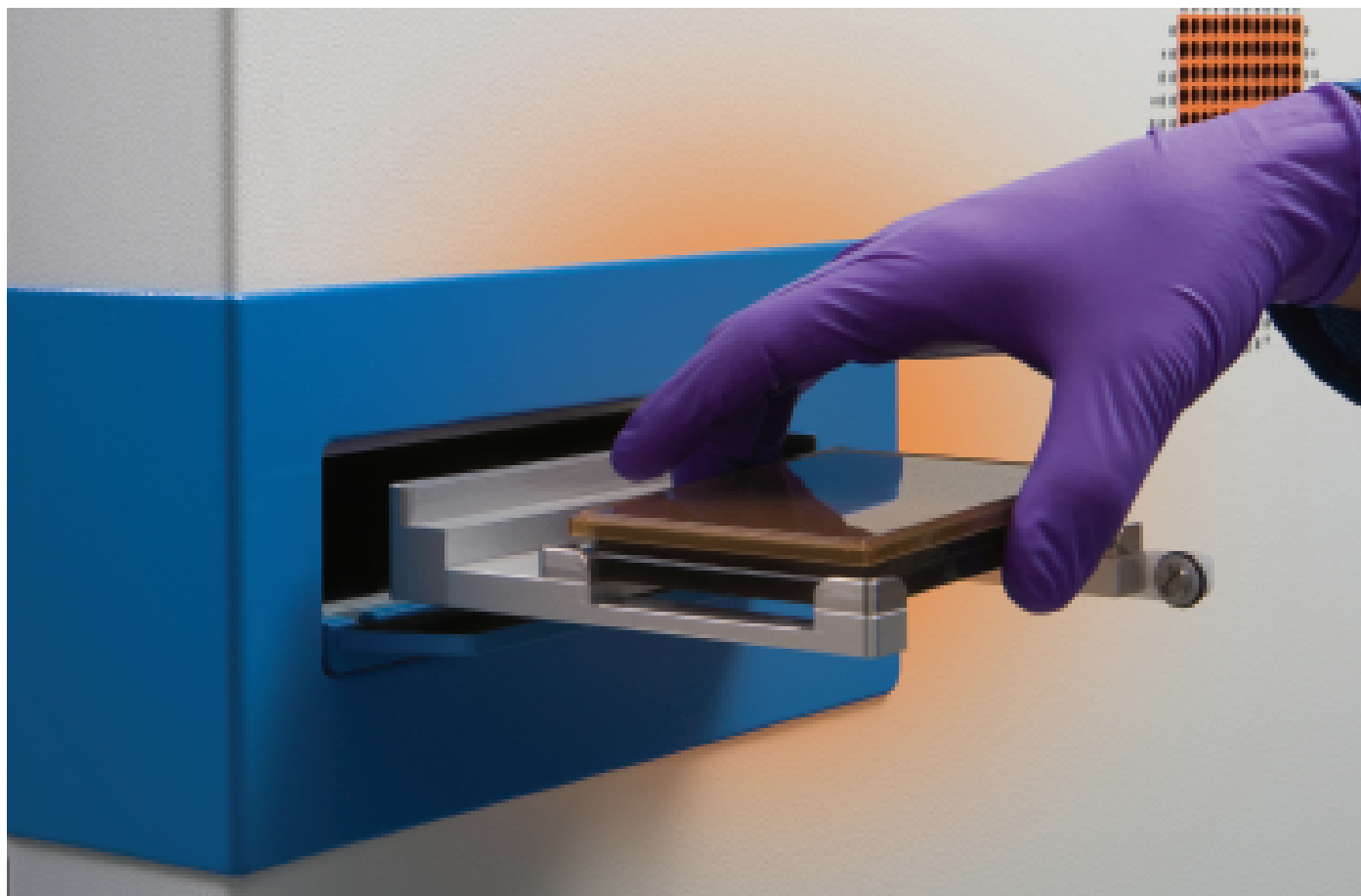


The Corning® Epic® System

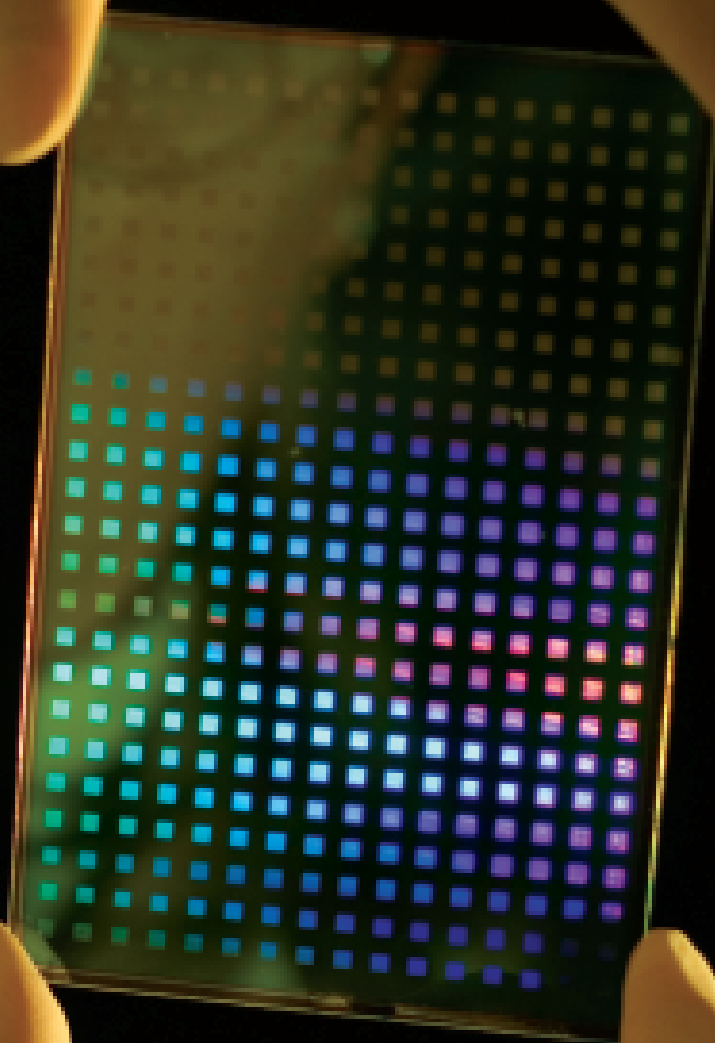
New Targets. New Information.



The Label-Free Advantage in a High Throughput System

The Corning® Epic® system combines advanced optics and chemistry to bring high-throughput screening to a new level. The Epic system opens the opportunity to screen more protein candidates revealed by proteomics and accommodates a wide range of biochemical and cell-based assays that enable researchers to mine more information early in the drug discovery process.

Only the Epic system provides the advantages of label-free screening in a high-throughput system with a standard 384-well microplate. The system's label-free detection technology removes the difficulties associated with fluorescent or radioactive labels for biochemical screening. At the same time, the Epic® system eliminates the need to over-express receptors in cell-based assays. Researchers can identify high quality leads with more clarity and confidence because they can screen primary, or "biologically correct" cells without tampering with cell chemistry.





FEATURES

Cell-based and
Biochemical Assays in
One Versatile System

384-well Microplate
Format

HTS Equipment Integration

BENEFITS

Screening of New Targets

Observation of
Direct Interaction

Simpler Assays

The Epic Difference

Corning's Epic system represents the only label-free screening solution to provide both biochemical and cell-based assays in one system. One platform streamlines capital investment and allows a broader range of potential applications, thus enabling screening efficiencies. While the Epic system's high throughput offers more data points per unit of time, its versatility as a screening device allows more information to be gleaned from a single target. By eliminating the need to attach labels or use over-expressed cells, the Epic system also shortens the time it takes to progress from assay development to high-throughput screening.



Biochemical Assays:

Label Free Direct Binding

The use of fluorescent or radioactive labels not only requires *a priori* knowledge of targets and their natural ligands, but has been known to cause undesirable and unanticipated interactions that can compromise screening data and lead to false conclusions. In addition to eliminating such side effects of labels, the Epic system also enables researchers to conduct assays with so-called intractable targets, in which either a ligand has not been found or the ligand does not lend itself to label attachment.



Cell-Based Assays:

The Ability to Detect Endogenous Cell Receptor Response

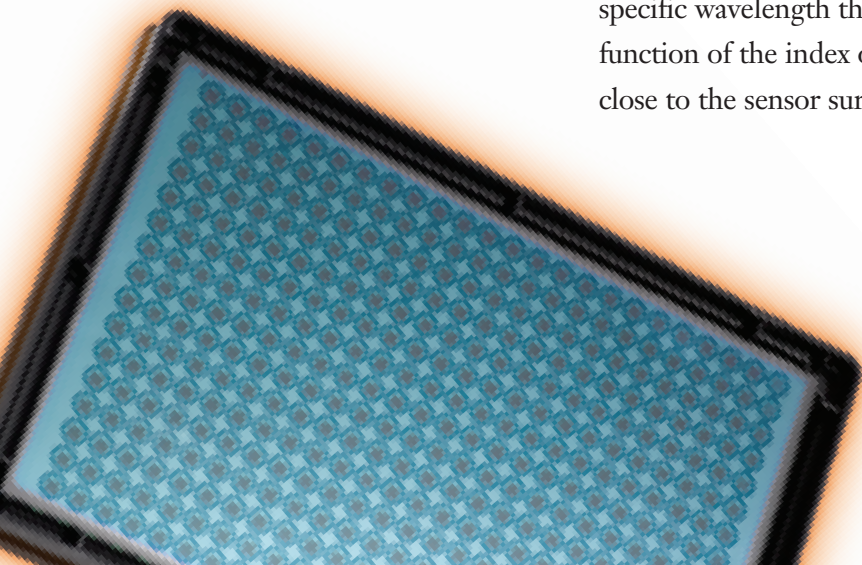
Corning® Epic® system enables assays of primary, or natural, cells. The data collected reflect, as closely as possible, what actually happens in the human body. Endogenous receptor response can be detected without over-expressing cell receptors, a process that changes the natural state of the cell. At the same time, the Epic system's



high throughput process enables researchers to conduct cellular assays earlier in drug discovery. Scientists can better determine how promising a compound is before investing millions of dollars in the next stage of drug development. Leads from biochemical assays, for instance, can be tested for toxic side effects. Moreover, drug developers can avoid expensive license fees associated with patent protected over-expression methods. Without the time and expense of engineering a cell line, researchers can obtain answers to critical go/no go decisions much sooner.

SBS-standard 384-well Microplate

The Epic system features an SBS standard 384-well microplate with optical biosensors in each well. This feature enables drug researchers to use Epic system with external HTS equipment (e.g., pipettors, microplate handling systems, etc.), thus facilitating high throughput screening for biochemical and cell-based assays.

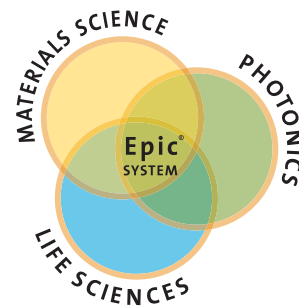


The Corning Epic® System



A Singular Solution From a World Leader in Photonics, Materials Science, and Life Sciences

The Epic system brings together Corning's heritage of innovation and leadership in photonics, materials science, and life sciences. The Epic system's label-free detection platform consists of an optical reader and a standard SBS 384-well microplate with optical sensors and attachment chemistry inside each well. When illuminated with broadband light, the resonant waveguide grating sensors reflect a specific wavelength that is a function of the index of refraction close to the sensor surface.

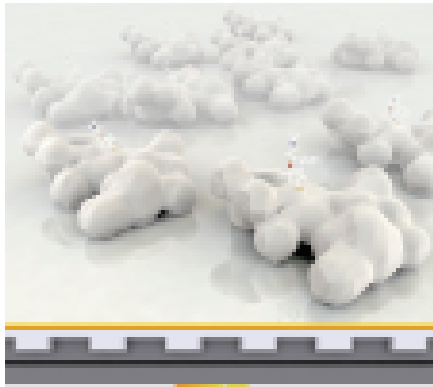


Brought to You by Corning

The Epic system springs from a 150 year tradition of scientific innovation. In its world class research facilities, Corning develops unique products that solve tough problems. The Epic system stems from a combination of Corning's expertise in Life Sciences, Optics, surface chemistry and materials — expertise that has led to such inventions as optical fiber and ceramic substrates.

Key Platform Features

- Patented dual-sensor self referencing technology
- HTS compatible microplate reader capable of processing up to 40,000 wells in an 8 hour period
- Sensitivity of 5pg/mm² (detects binding of a 300 Da compound to 70 kDa target)
- 384-well SBS standard microplate with optical sensors and attachment surface chemistry within each well
- Assay development mode with real time binding data

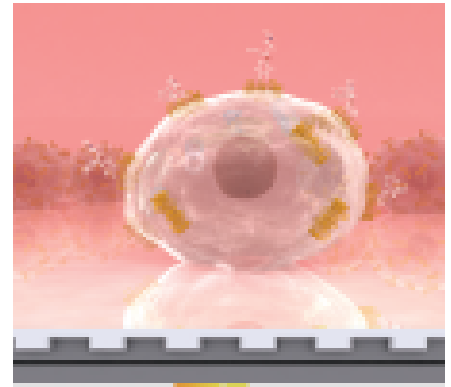


Biochemical Detection Principle

In biochemical assays, the optical sensors are coated with a surface chemistry layer that enables covalent attachment of protein targets via a primary amine group. The surface chemistry provides a high binding capacity surface, with low levels of non-specific binding. Proteins, peptides, small molecules

and DNA (containing primary amine groups) can be immobilized, after which a baseline reading is established. When the binding assay is performed and analyte molecules bind to the immobilized target, a change in the local index of refraction is induced, triggering a shift in the wavelength of light that is reflected from the sensor. The magnitude of this wavelength shift is proportional to the amount of analyte that binds to the immobilized target.

In whole cell assays, a similar detection process takes place: a shift in response from the optical sensor indicates changes in the local index of refraction. The sensors in each well detect index of refraction changes that take place



Cell-based Detection Principle

within the first 200 nm from the sensor surface. Only the bottom portion of whole cells cultured on the sensor are monitored during an assay. The Epic system is sensitive to whole cell movement, as well as mass redistribution within a cell due to protein trafficking.

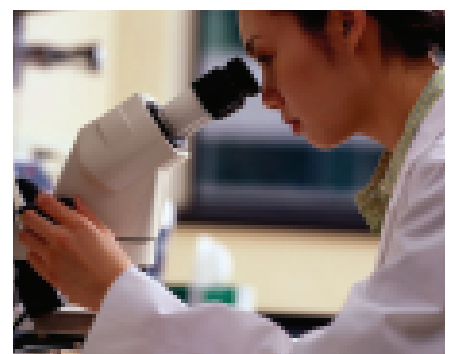
Corning Epic® System Applications

The Corning® Epic® system is a universal platform that can perform a range of assays from label-free, direct binding assays to label-free, functional assays. The Epic system enables screening of intractable targets and pathway interactions that cannot be screened today because of limitations associated with attaching labels and license fees.

Representative Assays

Biochemical Assays

- Enzyme/Small-Molecule Drug
- Enzyme/Natural Substrate
- Protein/DNA
- Antibody/Antigen
- Protein/Protein
- Antibody Profiling
- Cytokine/Cytokine Receptor



Cell-based Assays

- Signal Transduction (EGFRs, GPCRs, cytoskeleton modulators)
- Toxicity Screening
- Lipid Signaling
- Cell Proliferation

For additional product or technical information, please visit www.corning.com/lifesciences/epic, call 800.492-1110 or e-mail at epic@corning.com. Customers outside the United States, please call +1.978.635.2200 or contact your local Corning sales office listed below.

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