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# Service with a smile

## The latest molecular biology services on offer

Molecular biology techniques are extremely common and widely used in academic, biotechnology and pharmaceutical research. However, many techniques can also prove to be very tedious, complicated and time-consuming or may require investment in expensive instruments or equipment. As a result many companies are now providing a wide range of reliable and economical molecular biology outsourcing to supplement and support scientists' needs.

### Drug discovery

Four new biologically targeted libraries from **BioFocus DPI** contain novel drug-like compounds that specifically target kinases and – for the first time – protein-protein interactions. The **Helix Mimetic** library is based on a novel structural motif that interacts with protein helices. This library is designed specifically to inhibit protein-protein interactions, but also targets other helical recognition motifs such as the pore region of ion channels. Three new **SoftFocus®** kinase libraries target either the hinge region or novel binding modes.

**ProImmune's REVEAL™ B Cell Epitope Discovery System** is designed to accelerate the development of biological therapies and understanding of diseases at a structural level. The REVEAL service offers both comprehensive best consensus epitope prediction and rapid high throughput linear epitope mapping *in vitro*. REVEAL consensus epitope prediction is a key tool in developing incisive hypotheses for downstream *in vitro* research. REVEAL linear epitope mapping uses standardised peptide synthesis, which simplifies and accelerates the measurement of large numbers of samples. Based on ProArray™ high-content peptide microarrays that can include thousands of peptides, the service provides a turnkey solution for applications such as vaccine subunit discovery, immunogenicity testing, and correlating antibody responses to protein targets with disease onset, progression and outcome.

### Assays

Customised bioassay testing services from **PBL InterferonSource** include antiviral cytopathic effect (CPE) inhibition, neutralising antibody (NABs), ELISA, and *iLite™* bioassay services. CPE inhibition assays can test the antiviral, antiproliferative and immunomodulatory

activity for both Type I and II interferons from different species, with a more than 100 fold sensitivity compared to alternative assays. The neutralisation assay services are for researchers who would like to know how much interferon activity is neutralised by antibodies in their samples. As an expert in interferon ELISA assay kit development, PBL also offers ELISA services to researchers who are running extended interferon studies. For time-sensitive studies, PBL's *iLite* service is a rapid gene-reporter assay that provides researchers with IU/ml quantification of Type I interferon in less than 24 hours. The unique assay detects multiple interferon alpha subtypes as well as other Type I interferons.

**KinAffinity®** is a new service from **Kinaxo Biotechnologies** that provides invaluable information about a kinase inhibitor's selectivity in a cell or tissue of interest. It simultaneously determines affinities for native kinases expressed within a cellular proteome and thus overcomes the limitations of traditional biochemical assays that only use recombinant proteins. Endogenously expressed, post-translationally modified kinases are enriched by a ready-to-use affinity matrix in the presence of native binding partners and competed with the kinase inhibitor of interest. Subsequently, bioinformatic methods are used to reveal the inhibitor's quantitative cellular target profile. The inhibitor's targets are ranked by their affinities and reported to the customer. KinAffinity is applicable for type I and type II kinase inhibitors. It facilitates selectivity analysis on an organism level that accounts for differences in protein expression between different cells, as well as their mutational and modification status that might affect drug binding.

The inhibition of human cytochrome



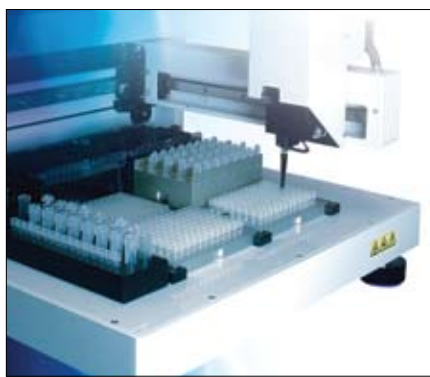
PBL InterferonSource offers customised bioassay testing services

P450 enzymes is one of the most common mechanisms that can lead to drug-drug interactions. The draft FDA regulatory guidelines on drug interactions released in 2006 recommend the use of Ki in predicting the likelihood of clinical drug-drug interactions by cytochrome P450. **Cyprotex** has launched a **Cloe® Select** service to evaluate cytochrome P450 Ki determination. “Assessing the potential for drug-drug interactions is a critical part of the drug discovery and development process,” commented Dr. Anthony Baxter, Cyprotex’s Chief Executive Officer. “Cyprotex offers a comprehensive range of *in vitro* services, which address this area and assist our customers in making important strategic decisions on compound progression.” All Cloe drug-drug interaction services are designed to adhere to the recommendations included in the FDA regulatory guidelines.

Using sophisticated algorithms, **Sigma-Genosys** can design dual-labelled probes and molecular beacons that will dramatically improve the success of assays. Primers and probes on multiple sequences are designed in a single search run and are screened for all possible secondary structures to ensure optimal signal strength.  $T_m$  is calculated using nearest neighbour thermodynamic theory and highly accurate Santa Lucia values. Sigma-Genosys can also analyse properties of current assays that have already been pre-designed, and evaluate the efficiency of those combinations. Complimentary primer sets may also be designed for real-time QPCR applications. Sigma-Genosys software will BLAST sequences, automatically interpret the results, and then design highly specific primers that avoid regions of cross-homology, using statistical optimisation techniques.

### Transfection and expression

A new offering from **Lonza, Cells on Demand™ Cell Culture and Transfection Services**, provides researchers with assay-ready cells for cell-based screening including primary cells, cell lines, stable clones, transiently transfected cells and media. “Cells on Demand has been



OET's *baculoXPRESS™* baculovirus expression services

designed to deliver high quality cells, on time and to specification. Customers can focus on their research, rather than spending time troubleshooting cell production issues and inefficient transfection protocols,” said Dr. Marin Parenty, Head of Lonza Cell Discovery. Lonza’s Cells on Demand services include bulk cell production, transfection services, cell isolation services and media production.

**Oxford Expression Technologies** (OET) has launched *baculoXPRESS™*, a suite of comprehensive baculovirus expression services that can be tailored to individual requirements. The new services provide customers with multiple recombinant viruses simultaneously, quickly and cost-effectively. The routine use of *flashBACGOLD/ULTRA* in the services will also result in increased protein yield and quality. *baculoXPRESS* services include gene synthesis; PCR cloning; sub-cloning; production of recombinant viruses using *flashBAC™*, *flashBACGOLD™*, or *flashBACULTRA™* virus DNA; expression optimisation; protein production and purification; and next-day virus titration using OET’s *baculoQUANT™* methodology — each providing defined deliverables with relevant documentation. Additional expression services are available on request.

### Research support

Designed to match the significant rise in genetic content generated by government and privately funded sequencing projects, **Affymetrix’** next-generation array technology, **Axiom Genotyping Solution**, enables researchers to find novel genetic variations associated with complex disease. The Axiom Solution supports both whole-genome association and candidate gene association studies employing enzyme-mediated, single-base sequencing steps for specificity in conjunction with affordable, reproducible, and highly automated workflows. Affymetrix Research Services Laboratory (ARSL) provides convenient and reliable processing of Axiom Genotyping Solution samples. The service lab provides expert knowledge of best practices to process and analyse samples, manage

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Dr. Marin Parenty,  
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service projects from start to finish, and meet crucial deadlines.

Designed to provide laboratory services for the pharmaceutical and biotechnology industry, **Sigma-Aldrich’s Services Network** provides researchers with convenient access to a wide variety of laboratory-based services from a centralised website location. The Network will allow scientists to engage Sigma-Aldrich resources and certified partners for laboratory services on an as-needed basis, freeing them to concentrate on core research objectives. Scientists from the pharmaceutical and biotechnology industry can select from a menu of laboratory services, including cloning, mass spectrometry based protein characterisation, protein expression and protein purification services to supplement their research and support drug discovery.

### Companies mentioned in this Product Focus:

Affymetrix – [www.affymetrix.com](http://www.affymetrix.com)  
 BioFocus DPI – [www.biofocus.com](http://www.biofocus.com)  
 Cyprotex – [www.cyprotex.com](http://www.cyprotex.com)  
 Kinaxo Biotechnologies – [www.kinaxo.de](http://www.kinaxo.de)  
 Lonza – [www.lonza.com](http://www.lonza.com)  
 Oxford Expression Technologies – [www.oetltd.com](http://www.oetltd.com)  
 PBL InterferonSource – [www.interferonsource.com](http://www.interferonsource.com)  
 ProImmune – [www.proimmune.com](http://www.proimmune.com)  
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 Sigma-Genosys – [www.sigma-genosys.com](http://www.sigma-genosys.com)

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