Synthesis, Labeling & **Assay** Services

When you need a customized solution to support your research, turn to PerkinElmer. Fifty years of experience in labeling technologies allows us to label virtually any biomolecule. Our expertise in assay development and microplate coating helps streamline your projects and save valuable time. Plus our ISO 9001:2000 registered quality system, cGMP manufacturing capabilities and state-of-the-art synthesis, analytical and assay development laboratories assure you of the highest caliber custom products and services.

Contents

Scope of Radiosynthesis & Radiolabeling Services

	ISO 9001:2000	Technical Data Sheets	Total Activity Measurement	Specific Activity Measurement	Radiochemical Purity	Chiral Separation or Synthesis	GMP (upon request)
^{14}C, ^{3}H, ^{35}S Custom Synthesis	■	■	■	■	■	■	■
^{14}C, ^{3}H, ^{35}S Radioactive Fermentation Labeling	■	■	■	■	■	■	
^{125}I or ^{131}I Radioiodination	■	■	■	■	■	■	
Tritium Labeling Plus	■	■	■	■	■	■	
Tritium Labeling Services							
Catalytic Reduction with Tritium Gas	■	■	■				
Reduction with Sodium Borohydride, [^{3}H]	■	■	■				
Catalytic Exchange with Tritium Gas	■	■	■		■		
Tritium Gas Exposure	■	■	■		■		
^{14}C-Labeled Precursors	■	■	■	■	■	■	■

Radiosynthesis & Radiolabeling Services

PerkinElmer's experienced chemists will work with you, scientist to scientist, to design and prepare your radiochemical. You'll have access to PerkinElmer's extensive technical support resources, both during the specification process and after delivery, to ensure your custom product meets your exact specifications and application needs. We offer industry-leading turnaround times on quotations and deliveries worldwide —and highly competitive pricing.

- **Confidentiality guaranteed:** we respect the proprietary nature of your work and of the materials you entrust to us, and so we conduct business to ensure utmost confidentiality. When it is necessary for you to disclose confidential information to us, we will promptly and efficiently process a nondisclosure agreement.
- **Fast quotation and delivery:** our international network of sales and technical specialists is organized to respond to your inquiries quickly, professionally, and definitively.
- **ISO certified:** we develop and manufacture custom products under an ISO 9001:2000 quality system, ensuring reliable traceability.
- **cGMP compliant:** we provide dedicated custom radiochemical synthesis in our cGMP laboratory suite in compliance with FDA cGMP guidelines. Your synthesis is conducted by cGMP trained chemists. You will receive a Certificate of Analysis with your product documenting the methods of analysis and the results versus your specifications, certified by our Custom Synthesis, Regulatory Affairs and Quality Assurance Managers.
- **GMP capabilities:** we have extensive experience with GMP manufacturing and we support Drug Master Files. We can manufacture your custom product under conditions consistent with 21 CFR 210.211, which is suitable for materials to be provided for clinical trial and development studies. Please specify GMP conditions when you request your quotation.

^{14}C, ^{3}H and ^{35}S Custom Synthesis Services

Our custom synthesis scientists are experts in dealing with the technically challenging synthesis of radiolabeled biochemicals, such as peptides, steroids, lipids and others. They may collaborate with chemists from our Analytical Laboratory to ensure the successful purification and analysis of final products.

Exacting Purity Standards

- Every custom synthesis product is analyzed to ensure that it meets the purity requirements agreed to upon acceptance of the quotation.
- When your custom radiochemical is delivered, it is accompanied by a report detailing the analytical methods used and the results obtained.
- Purity is determined by analytical methods that may include HPLC, MS, NMR, GC, LC, UV spectrometry, and agarose and polyacrylamide gel electrophoresis.
- For novel custom radiochemicals, our Analytical Laboratory works with you and with our team of synthetic chemists to develop appropriate new analytical methods.

Chiral Synthesis and Chiral Separation

We are experienced in synthesizing chiral compounds and performing chiral separations. We welcome your participation in selecting the most appropriate chiral methodology. Available methodologies include:

- **Chiral compound synthesis:** biosynthesis, enzymatic resolution, chiral auxiliaries, chiral catalysts.
- **Chiral HPLC:** separation of the target enantiomer from a racemic mixture.

Radiosynthesis & Radiolabeling Services

Fermentation Labeling Services/Tritium Labeling Service/Radioiodination Services

^{14}C, ^{3}H and ^{35}S Fermentation Labeling Services

Fermentation labeling provides a cost-effective ^{14}C-, ^{3}H- and ^{35}S-labeling method for many biologically active, complex molecules that are difficult to radiolabel using traditional organic synthesis. As a result, fermentation has become the labeling method of choice for metabolism, toxicology and biodistribution applications.

PerkinElmer designs each custom fermentation to maximize the specific activity of the final product and provide labels in each region of the molecule. Our scientists will help you select the most appropriate microbial strain, radioactive substrate, and fermentation method to achieve the desired results. Plus, we can accurately monitor growth using proven analytical techniques.

Custom Fermentation Process Controls

Carbon & Energy Source + O_2 + Nitrogen + Other Required Nutrients

↓

Cells + Products + CO_2 + Heat + H_2O

Monitor consumption of the radioactive substrate:	Measure cell component:	Monitor product formation:
• Chemical analysis	• Protein	• Chemical analysis
• Chromatography	• DNA/RNA	• Mass spectrometry
• Incorporation study	• Cell wall or membrane	• Chromatography (including HPLC)
	• Carbohydrate	
	• Lipid	

Tritium Labeling Service

Our Tritium Labeling Service is a cost-effective way to prepare a ^{3}H-labeled radiochemical. The process includes:

- **Reaction of the precursor you submit, according to the labeling method you select.**
- **Removal of the catalyst and labile tritium from the resulting crude product.**
- **Assay of the resulting crude product for total radioactivity.**

Any additional procedures are executed upon written agreement prior to performance of the service.

When you discuss the requirements of your particular application with PerkinElmer scientists, they will discuss the available tritium labeling methods with you, recommend the best approach and describe the benefits and limitations of each method.*

** Please note: All tritiation methods expose the material to a radioactive field that causes decomposition of all materials present in the mixture. The nature and amount of decomposition depends on various factors, including the nature and amount of starting material, the amount of tritium employed, and the length of exposure to radiation. Other factors affecting decomposition are still undefined. Due to the great variety of materials handled, PerkinElmer cannot give a generalized statement about the nature or quantity of impurities to be expected.*

^{125}I and ^{131}I Radioiodination Services

PerkinElmer will label your compound with ^{125}I or ^{131}I using the most appropriate radioiodination method and reagent quantities to meet your specifications. We can perform large scale iodinations (>10 mCi).

- **Unbound iodide is removed from the labeled product(s) using HPLC or open column chromatography, depending on the characteristics of the molecule being iodinated.**
- **Typically, the product is assayed by TLC to verify that the free iodide content is <5%.**
- **To place an order:**
  - **Please submit chemically pure compounds for labeling, as any impurities present may also become labeled. Your precursor is used "as is", without analysis, testing, or verification.**
  - **Upon placing your order, you will receive specific instructions for packaging, labeling, and shipping your compound to PerkinElmer.**
  - **To expedite delivery, we encourage you to furnish appropriate labeling references.**

Radioiodination Services/Nucleotide & Oligonucleotide Synthesis

Available Radioiodination Services

Iodination Method	Description	Product No.	
		[^{125}I]-	[^{131}I]-
Bolton-Hunter reagent	Bolton-Hunter reagent is the N-hydroxysuccinimide ester of iodinated p-hydroxyphenylpropionic acid.[1] The active ester acylates terminal amino groups with the iodinated p-hydroxyphenylpropionic residue, effectively introducing radioactive iodine into proteins and peptides. A non-oxidative technique, it is less harsh to proteins than alternative methods. Labeled proteins and peptides, such as GLP-2, hGH, insulin and MCP-1 retain a high degree of binding activity to receptors and antibodies.[2]	NEX088	NEX088A
Chloramine-T	Chloramine-T (p-toluene sulfonochloramide) is an effective method of labeling a variety of proteins and peptides (e.g., albumins, globulins, angiotensins, glucagon, etc.). This oxidative method involves exposure of the substrate to Chloramine-T in the presence of NaI, [^{125}I]- or [^{131}I]-, for a short time and produces high specific activity proteins or peptides labeled with carrier-free radioiodine, but can be harsh. This procedure is selected for applications with a history of success, or where our experience indicates a probability of success.[3]	NEX084	NEX084A
IODO-GEN® reagent	A solid phase oxidative method similar to the Chloramine-T method. It is generally considered to be milder, because the reaction takes place on the surface of the oxidant, minimizing exposure to the substrate.[4]	NEX244	NEX244A
Lactoperoxidase	Lactoperoxidase catalyzes the oxidation of iodide using hydrogen peroxide as the enzyme substrate. It is a milder oxidative technique than Chloramine-T.[5]	NEX083	NEX083A
Exchange labeling with sodium iodide	Conducted using standard published processes.[6]	NEX086	NEX086A
Custom labeling methods	Propose a specific method to PerkinElmer for review, and if feasible, we will use it to perform your radioiodination.	NEX999	NEX999

[1] Rudinger, J., and Ruegg, U., *Biochem.J.* 133:538 (1973).

[2] Bolton, A.E., and Hunter, W.M., *Biochem.J.* 133:529 (1973).

[3] Hunter, W.M., and Greenwood, F.C., *Nature* 194:495 (1962).

[4] Salacinzki, P.R.P., et al., *Anal.Biochem.* 117:136 (1981).

[5] Markalonis, J.J., *Biochem.J.* 113:299 (1969).

[6] Coenen, H.H., *Radiochimica ACTA* 34:47-68 (1983).

^{32}P, ^{33}P and ^{35}S Nucleotide & Oligonucleotide Synthesis

PerkinElmer will synthesize and package radiolabeled mono-, di- and triphosphate nucleotides, oligonucleotides and other related biochemicals to your specifications on a make-to-order basis. We have extensive experience in labeling nucleotides in different positions (e.g., beta position) and synthesizing labeled oligos for hybridization.

^{14}C-Labeled Precursor Materials

^{14}C-Labeled Precursor Materials

To assist in your in-house synthesis of labeled compounds, PerkinElmer offers a number of ^{14}C-labeled precursors that can be purchased in large quantities.

- These precursors are routinely produced and are readily available with the same high purity specifications as comparable catalog compounds.
- We will provide custom packaging in special glassware to meet your unique protocol requirements. For many applications, such packaging is more convenient and saves material. Additional charges may apply.
- The table below contains a partial list of available precursors. Other precursors are available. Please inquire.

^{14}C Precursor Materials

Precursor	Specific Activity [mCi/mmol]	Form and Packaging	Product No.
Acetic acid, sodium salt, [1-^{14}C]-	45–60	Ethanol	NEC084H
Acetic acid, sodium salt, [2-^{14}C]-	45–60	Ethanol	NEC085H
Aniline hydrochloride, [^{14}C(U)]-	Up to 60	Ethanol in silanized vial	PCM183
Barium carbonate, [^{14}C]-	40–60	Crystalline solid	NEC009B
Benzene, [^{14}C]-	40–60	Liquid in breakseal tube	NEC010H
Bromoacetic acid, [1-^{14}C]-	40–60	Crystalline solid	PCM059
Bromoacetic acid, [2-^{14}C]-	10–50	Crystalline solid	PCM011
Bromobenzene, [^{14}C(U)]-	Up to 60	Liquid in sealed ampoule	PCM186
Chloroacetic acid, [1-^{14}C]-	10–50	Crystalline solid	PCM087
Chloroacetic acid, [2-^{14}C]-	10–50	Crystalline solid	PCM187
Chlorobenzene, [^{14}C(U)]-	10–60	Liquid in sealed ampoule	PCM116
Ethyl acetate, [1-^{14}C]-	10–55	Liquid in breakseal tube	PCM058
Ethyl acetate, [2-^{14}C]-	10–55	Liquid in breakseal tube	PCM082
Formaldehyde, [^{14}C]-	40–60	Formaldehyde:Water (1:99) in sealed ampoule	NEC039H
Formic acid, sodium salt, [^{14}C]-	40–60	Ethanol:Water (7:3)	NEC089H
Methanol, [^{14}C]-	40–60	Liquid in breakseal tube	NEC059H
Methyl iodide, [^{14}C]-	40–60	Liquid in breakseal tube	NEC068H
Nitrobenzene, [^{14}C(U)]-	40–60	Liquid in sealed ampoule	PCM122
Phenol, [^{14}C(U)]-	40–60	Ether in sealed ampoule	PCM182
Potassium cyanide, [^{14}C]-	40–60	Crystalline solid	NEC079H
Sodium cyanide, [^{14}C]-	40–60	Crystalline solid	NEC477B
Thiourea, [^{14}C]-	40–60	Crystalline solid	NEC102H
Toluene, [ring-^{14}C]-	10–60	Liquid in breakseal tube	PCM124
Urea, [^{14}C]-	40–60	Ethanol	NEC108H

Nucleotide Analog Synthesis/Biotinylations

Analytical Services

The full range of analytical methods that PerkinElmer uses in the production and control of custom synthesized and labeled products is also available to customers on a contract basis. Our Analytical Services Department can perform the following analyses on your compounds:

- High Pressure Liquid Chromatography
- Thin Layer/Paper Chromatography
- NMR
- Gas Liquid Chromatography
- Mass Spectrometry
- Molecular Weight Distribution
- High Pressure Size Exclusion Chromatography
- Photodiode Array

Other services are available. Contact us for additional details.

Stable Isotope Labeling

We offer custom labeling with the stable isotopes ^{2}H, ^{13}C, ^{15}N and others. A wide range of compounds can be labeled with stable isotopes including NMR solvents, specialty gases, amino acids, cell growth media, nucleic acids and nucleosides, drugs and metabolites, fatty acids and lipids, and sugars. These can be used as internal or chromatographic standards and, increasingly, as labeled compounds in metabolic studies.

Fluorescence & Hapten Labeling Services

Nucleotide Analog Synthesis, Labeling & Special Packaging

PerkinElmer offers one of the world's most extensive lines of fluorescent- and hapten-labeled nucleotides for applications such as differential gene expression analysis on microarrays, SNP analysis and in situ *hybridization. Larger package sizes, special buffer or analog concentrations and other custom modifications of our products can be accommodated to meet the special needs of your laboratory or manufacturing facility.*

PerkinElmer will custom synthesize and purify any labeled nucleotide for your research. Our proprietary purification system provides analogs of the highest purity available, including many that are isomerically pure.

- Simply provide the amine-reactive label of choice (NHS, isothiocyanate, sulfonyl chloride, etc.) and we will attach it to any of a variety of amino-modified nucleotide 5'-triphosphates we have available.
- With some analogs, we can even insert custom "spacer-arm" lengths to meet your specific experiment requirements.

Biotinylations

We can perform a direct biotinylation of your biochemical or macromolecule with covalent modification, double labeling with radioactivity, and purification and biological testing. Our experience includes antibodies, carbohydrates, glycoproteins, lipoproteins, nucleic acids, peptides, phospholipids and steroids.

Assay & Labeling Services

Master Service Agreement/Labeling Services

Assay & Labeling Services

Starting new research activities requires tremendous effort, even with the right assay technology. At PerkinElmer, we recognize this and offer a range of services to support you including:

- Custom labeling of biomolecules using our assay technologies and chemistries
- Assay development using our assay technologies
- Custom cell culture
- Microplate coating and related specialized services

Master Services Agreement — for Long-Term Access to PerkinElmer's Service Capabilities

You can set up a Master Services Agreement with PerkinElmer for long-term, more comprehensive partnering. When you choose to work under a Master Services Agreement you benefit from detailed work plans, including milestone timelines and pricing.

Terms and Conditions are generally established for a two-year period. Any additional custom work plans and pricing are generated upon request, with discounts awarded based on volume.

For more information, contact your local PerkinElmer Sales Representative.

Labeling Services

AlphaScreen Labeling Service

Our exclusive AlphaScreen® (Amplified Luminescent Proximity Homogeneous Assay) is a robust, bead-based homogeneous assay technology widely used in Drug Discovery for many types of applications — including enzyme assays, protein interaction assays, immunoassays, and GPCR functional assays — because of its high sensitivity and ease-of-use. AlphaScreen relies on the use of Donor and Acceptor beads. When a biological interaction between molecules brings these beads into proximity, a cascade of chemical reactions produces a greatly amplified luminescent signal.

To speed your assay development process, PerkinElmer can label your target protein or ligand (binding partner) with biotin, fluorescein or digoxigenin and cross-link it to AlphaScreen Acceptor or Donor beads. AlphaScreen Acceptor beads can also be labeled with your purified protein of interest. Labeled products are typically delivered within two weeks and include a technical report with cross-linking and quality control data.

AlphaScreen Labeling Capabilities

Capability	Description
Labeling of target protein/ligand with biotin, fluorescein or digoxigenin	Target protein or ligand (binding partner) is labeled with biotin, fluorescein or digoxigenin. A minimum of 0.5 mg of purified protein (concentration >1 mg/mL) in PBS is required. The level of label per target protein is determined using a protocol developed at PerkinElmer.
Acceptor bead labeling	Target protein is cross-linked to AlphaScreen Acceptor beads. A minimum of 0.5 mg of purified protein (concentration >1 mg/mL) in PBS is required. The level of cross-linked protein is determined using an appropriate assay.

DELFIA Labeling Service

Lanthanide chelates have unique fluorescence properties that perform well as sensitive labels in wide variety of applications. Detection levels in DELFIA® assays can be as low as a few attomoles per well. In addition, compounds can be labeled with europium, terbium, samarium or dysprosium chelates to be used for multiplexing assays. Europium produces high fluorescence and has the best sensitivity. Samarium and terbium labels should be used as the second label in dual-label assays to measure the analyte that requires the lower sensitivity.

You will benefit from our extensive experience labeling proteins, peptides and small molecules, as well as synthesizing and labeling oligonucleotides. Labeled proteins are typically delivered to you within two weeks, while peptide synthesis and labeling is generally completed within three weeks. Purified, labeled oligonucleotides are delivered within three weeks of receiving your order.

DELFIA Labeling Capabilities

Capability	Description
Europium (Eu), Samarium (Sm), Terbium (Tb) and Dysprosium (Dy) labeling of protein and peptides	Biomolecules are labeled with lanthanide chelates through conjugation or synthesis. Proteins can be conjugated with several chelates (5–20) without loss of affinity. We can synthesize a peptide of a specified sequence up to 50 amino acids long and label cysteine or lysine residues site-specifically. Examples include antibodies, cytokines, chemokines, receptors, galanin, motilin, Substance P and more.
Eu, Sm, Tb and Dy labeling of DNA oligonucleotides including synthesis	Oligonucleotides are synthesized and labeled based on the sequence you specify. Short probes for use in hybridization efficiency or melting temperature studies or PCR primers are usually conjugated with one to three lanthanide chelates. Longer probes are labeled according to the requirements of the application, typically with 5–20 chelates.
Eu, Sm, Tb and Dy labeling of haptens	Small molecules, such as hormones, vitamins and amino acids, are labeled with lanthanide chelates and purified.

LANCE & TruPoint Labeling Service for TR-FRET & TR-FQA

PerkinElmer offers an extensive line of off-the-shelf LANCE™ and TruPoint™ products that you can use to set up your own assays. Our labeling service supplements these offerings, allowing you to set up your assay using custom-labeled materials that we prepare for you.

This service provides custom labeling of proteins and peptides for use as donor labels in LANCE TR-FRET (time-resolved fluorescent resonance energy transfer) and TruPoint TR-FQA (time-resolved fluorescent quench) assays. A selection of complementary acceptor labels needed for setting up LANCE TR-FRET assays is available as catalog items. TruPoint technology also provides an excellent platform for robust, sensitive and cost-effective kinetic studies, especially for assaying enzymes such as protease and helicase.

Samples should be sent free of carrier proteins such as BSA, gelatin and reducing agents. Turnaround time for this labeling service is typically within two weeks.

LANCE & TruPoint Labeling Capabilities

Capability	Description
Eu or Tb labeling of proteins and peptides	Proteins and peptides are labeled using our proprietary fluorescent chelates. These are used as donor labels in applications such as binding and enzyme assays. Peptide labeling can also include synthesis of peptides up to 40 amino acids long.
Lanthanide and quencher labeling of peptide and DNA oligonucleotides	Peptides or oligonucleotides are synthesized based on the sequence you specify. The substrate is labeled with both Eu-chelate and a quencher dye for your assay.

Assay & Labeling Services

Assay Development Service

Assay Development Service

PerkinElmer scientists can develop application-specific assays for drug discovery and other studies. We can develop custom assays, miniaturize assays, and convert other assay technologies to PerkinElmer's assay technologies, including:

- Homogeneous AlphaScreen luminescence technology
- Time-resolved fluorescence DELFIA and TR-FRET-based LANCE technologies
- FlashPlate® or Image FlashPlate scintillation proximity assays

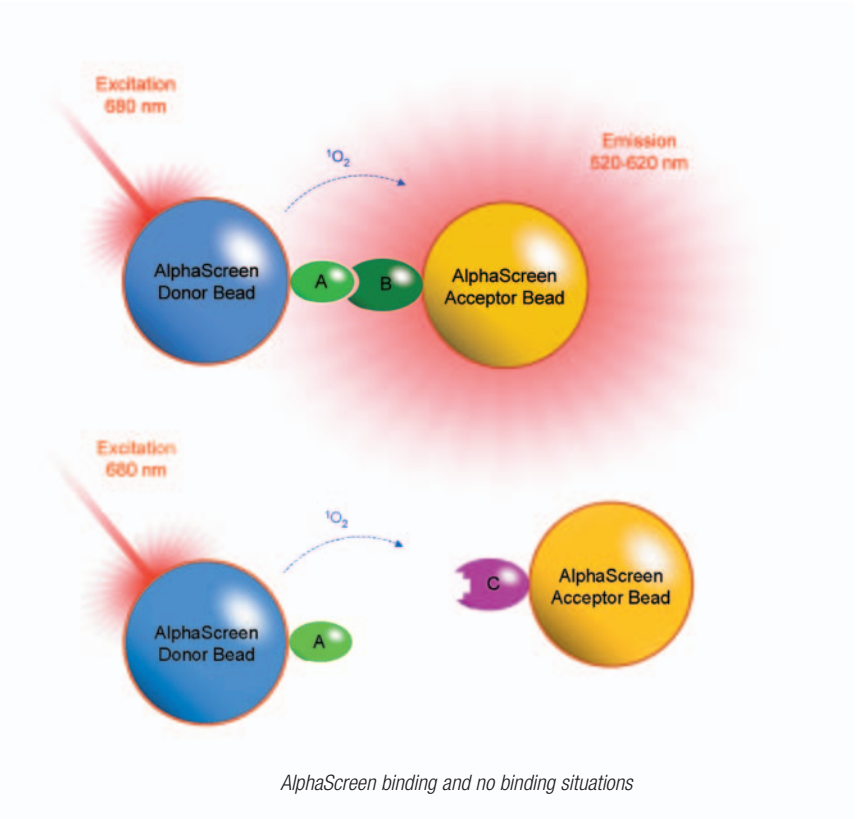
Customers are requested to furnish PerkinElmer with the assay description and criteria for your particular assay, including:

- Desired protocol or assay platform
- Assay format
- Performance criteria (signal-to-noise, Z' value, precision, stability requirements, etc.)
- Requirements for intended screen, including number of wells and timing of screen

We will work closely with you to assess project feasibility; then propose a milestone-based assay development and validation plan designed to meet your assay objectives and specifications. During implementation of our assay development contract, we will work closely with you to maintain a workable balance between time, costs and your technical objectives.

AlphaScreen Assays

PerkinElmer has developed several customer assays using our proprietary AlphaScreen technology. Backed by this solid experience in AlphaScreen assay and screen development, PerkinElmer can help you create a customized 96-, 384- or 1536-well assay that fits your specific needs. Application areas include functional GPCR assays, protein-protein interaction studies from low to high affinity, nuclear receptor and kinase assays.



AlphaScreen binding and no binding situations

Assay Development Service

Time-Resolved Fluorescence Assays with DELFIA & LANCE Technology

We can build your assay using one of our highly specific and robust time-resolved fluorometric assay technologies, DELFIA or LANCE. DELFIA technology provides highly sensitive assays with a broad dynamic range. LANCE can provide miniaturized reaction volumes and greatly accelerated sample throughputs.

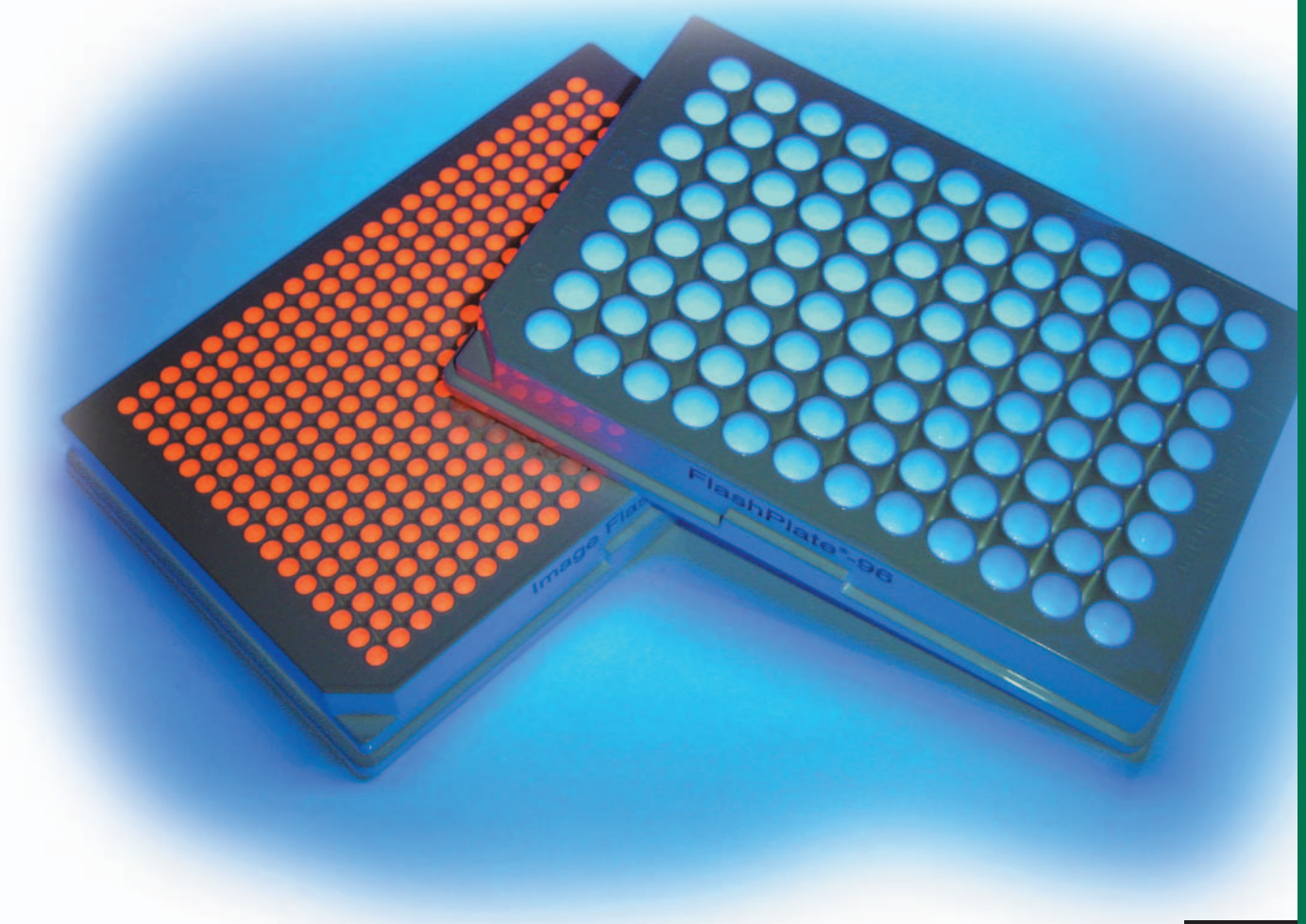
Assays already successfully developed include:

- **DELFIA:** immunoassays, receptor-ligand binding, protein-protein binding, adherent cell assays, enzyme assays
- **LANCE:** TR-FRET (Fluorescence Resonance Energy Transfer) or TR-FQA (Fluorescence Quench Assay) methods for protein-protein binding, enzyme assays, immunoassays

FlashPlate & Image FlashPlate Assays

PerkinElmer will develop scintillation proximity enzyme assays or immunoassays for you on our exclusive FlashPlate or Image FlashPlate platforms in 384-well or 96-well formats, including:

- **Enzyme assays** using ^{33}P-, ^{3}H- or ^{125}I-labels
- **Immunoassays** and other binding assays, typically in ^{125}I-based homogeneous formats



Microplate Coating, Packaging & Barcoding Services

Microplate Coating Service

Microplate Coating, Packaging & Barcoding Services

Our microplate services are designed to address a variety of needs, from special packaging to microplates coated with a reagent of your choice. PerkinElmer combines advanced facilities and automated coating equipment with years of proven expertise in microplate technology. We can custom coat or custom package most microplates in our line of products to your specifications.

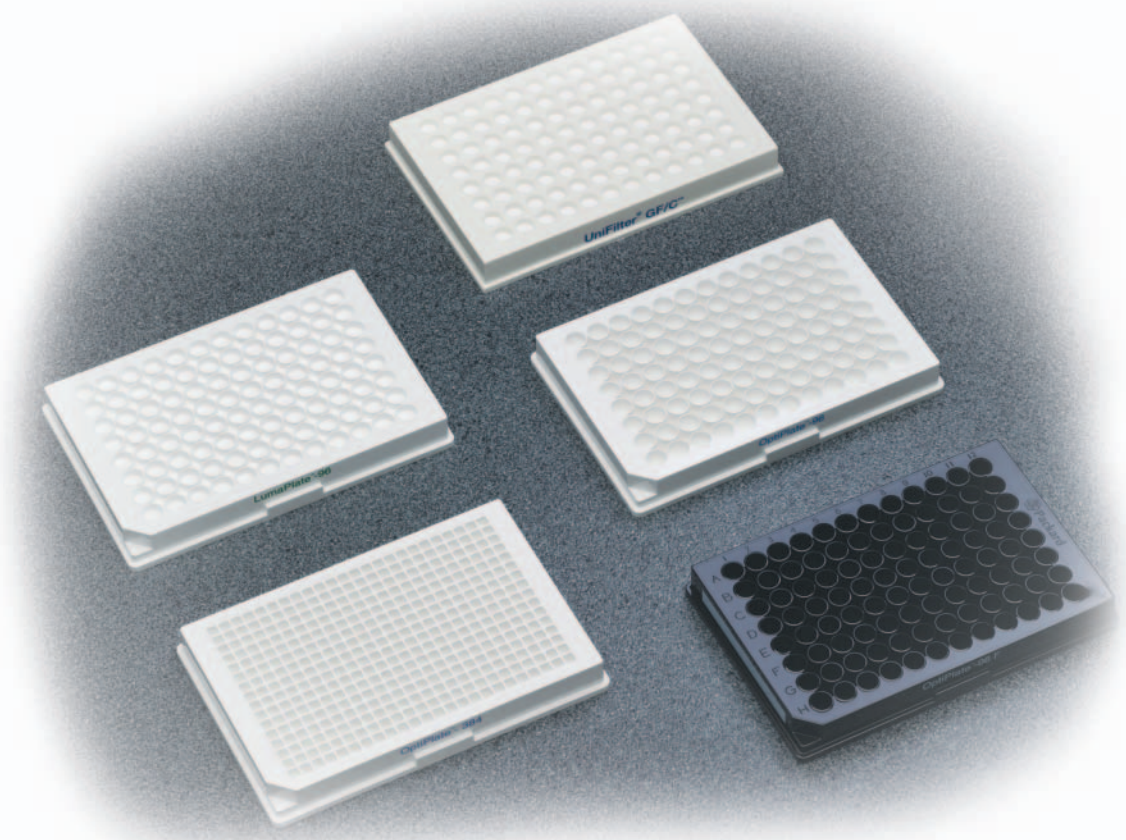
Microplate Coating Service

Our extensive experience with microplate coating technology allows us to be as flexible as your needs require. For example, we can:

- Utilize your coating process and protocol to coat PerkinElmer microplates with our equipment.
- Develop an application-specific coating process for you.
- Modify an existing plate-coating formulation to suit your needs.
- Deliver individually pouched or bulk-packaged microplates.

Use of existing raw materials and test methods, from our site or yours, significantly reduces lead times. Due to economies of scale, volume discounts can be applied to larger orders. Please inquire. Our maximum lot size capabilities can vary depending on the number of plate-coating process steps.

Types of Microplates Coated	Available Microplate Coatings	Special FlashPlate & Image FlashPlate Coatings
• Any PerkinElmer 96- or 384-well microplate. Please see p. 219 for a complete listing. • PerkinElmer's FlashPlate or Image FlashPlate (for use in scintillation proximity assays). • Other providers' microplates, assuming a successful feasibility review has been conducted.	• Antibodies (typically supplied by customer) • Myelin Basic Protein • PEI (often for Unifilter plates) • Poly-D-lysine (on tissue culture treated plates) • Protein A • Streptavidin, including different biotin binding capacities • Wheat Germ Agglutinin	• Red or blue scintillant on 96- or 384-well plates including shallow well, grey plates for imagers and round-bottom plates. • Phospholipid coating for lipid enzyme assays



Microplate Packaging/Microplate Barcoding/Expression Services

Microplate & FlashPlate/Image FlashPlate Packaging Services

PerkinElmer can reconfigure standard FlashPlate and microplate products to meet your specific screening needs such as large-size assay kits and plate packs, individually wrapped or bulk-wrapped plates, or other modified packaging.

For faster delivery and added economy, we recommend you select from our existing inventory of packaging, bottles, and related products.

Guidelines for FlashPlate & Microplate Coating and Packaging Services

	Coating Services		Packaging Services
	Samples	**Full-scale order**	**Full order**
Lead time	Typically 2 weeks	4–6 weeks	1–4 weeks
Minimum order quantity	N/A	96-well: 200 plates	Negotiable
		384-well: 100 plates	
Maximum lot size	Negotiable	96-well: 4,000 plates	Up to 200 plate packs
		384-well: 2,000 plates	

Microplate Barcoding Service

Most of our microplates and many others can be supplied with a high-quality barcode label. These plastic labels are waterproof, scratchproof, DMSO-resistant and withstand freezing to -80 °C. We offer:

- Different label formats (10 x 65 mm or 6 x 65 mm)
- Various barcode types (128, 39, ITF, etc.)
- Labeling of any or all microplate sides
- Multiple labels per plate
- Custom sequences and custom information

For more information about any of our microplate services, contact your local PerkinElmer Sales Representative.

PerkinElmer can produce bulk sizes of mammalian cells that express cell surface receptors and proteins of interest. We have extensive experience with many cell lines including CHO-K1, HEK293, A9L, neuroblastomas and myelomas. Our membrane preparations retain their receptor binding activity.

Our capabilities include:

- Cells grown according to your exact protocol.
- Cell pellets or membranes prepared from these cells according to your specifications.
- Pharmacological characterization of membrane preparations upon request.

Expression Services

Our expertise in expressing GPCRs is based on the production of more than 100 recombinant stable cell lines, including CHO-K1, HEK293, A9L, neuroblastomas, and myelomas. Contact your local PerkinElmer Sales Representative for more information.