MEAT AND SEAFOOD TESTING SOLUTIONS

Instrumentation, Consumables, Software, and Service

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COMPLETE SOLUTIONS FOR MEAT AND SEAFOOD ANALYSIS

Food testing labs like yours are constantly challenged with accurately analyzing samples quickly and efficiently – all while striving to reduce costs due to market forces. Your commitment to ensuring meat and seafood are safe for consumption, as demand increases, is an uphill battle.

Our commitment to you: to provide a range of solutions across multiple technologies, products, and services that meets or exceeds the testing needs of food processors. Our solutions offer more efficiency and increased accuracy and sensitivity for better yields in real time with minimal training.

From instrumentation and software to consumables and reagents to service and support, we are dedicated to providing you with end-to-end solutions that ease your everyday challenges of automation, throughput, service, and time to results.

Because when it comes to ensuring the safety and quality of meat and seafood, peace of mind goes a long way – for everybody.

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THE PATH TO DETECTING PATHOGENS

Food safety is a concern that extends across the meat and seafood industry and is the foundation to providing delicious, nutritious, and safe product for consumers – it is core to your mission and brand.

To comply with stringent regulations and customer requirements, testing must be done to manage potential food safety hazards and take corrective actions to actively monitor critical points in the process.

Testing for foodborne pathogens, such as *Listeria* and *Salmonella*, is commonly used to screen raw materials, verify the adequacy of process controls, monitor the environment, and release the final product.

Plant operators have important considerations when choosing the right pathogen testing workflows. Most critically, testing methods must meet inclusivity, exclusivity, and robustness requirements to ensure reliability, accuracy, and precision of the method, certified by AOAC or ISO17025. Due to the perishable nature of meat and seafood, total time to results and faster turnaround times save money by reducing expensive inventory holding costs. Another important factor to consider is ease of use, where simple workflows with cost-effective instrumentation reduces technician time and error risks, while increasing productivity.

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TESTING FOR SAFETY

While food testing needs differ by the type of product produced, there are several important factors to consider overall: time to results, precision and accuracy, and efficiency.

Time to results: Because meat and seafood are perishable and have short shelf lives, attaining results quickly is crucial to the success of your business.

Accuracy and precision: Methods and specific food matrices need to be verified and certified by AOAC (US and ROW) or ISO1610 (EU).

Efficiency: Easy-to-use, cost-effective instrumentation reduces technician time for better lab productivity.

WHICH SOLUTION IS RIGHT FOR YOUR LAB?

For testing final product releases:
Solus testing kits and Solus One *Salmonella* instrumentation

For in-process verification:
Solus testing kits and Solus One *Salmonella* instrumentation

For environmental monitoring:
Solus testing kits, Solus One *Listeria* and *Salmonella* instrumentation, and MicroFast® products

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ENSURING FOOD SAFETY AND COMPLIANCE

Analyzing chemical contaminants in meat and seafood such as veterinary residues, toxins, and pesticides is crucial to ensure consumer safety and compliance with regulatory limits.

Whether you are screening raw materials or certifying product releases, meat and seafood companies must verify antibiotic and hormone-free claims and ensure they comply with the regulatory requirements of the country of export.

So why is testing so vital? With today's trends, it's more important than ever to test meat and seafood products before they go to market. These testing drivers include:

• The evolution of "superbugs," or antibiotic-resistant bacteria
• Consumer desire for antibiotic-free foods
• Access to various markets by meeting countries' regulations

When it comes to meat and seafood analysis, we have a solution to fit all your testing needs.

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FOOD SAFETY ISN'T ALWAYS EASY

When it comes to meat and seafood testing, it can be difficult to stay on an ever-moving target. With more stringent regulatory requirements and maximum residue limits (MRLs), the meat and seafood industry require sensitive testing methods that can detect low levels of chemical contaminants in a wide range of tissue types – both with screening and analytical results.

Whatever your analysis, meat and seafood processors require complete solutions for detecting residues and contaminants. Our proven solutions – from robust instrumentation, sample preparation reagents and purification columns, consumables, and service and support – enable you to complete your testing with confidence.

FEATURED PRODUCTS:

QSight® LC/MS/MS
The latest in triple quad technology, our QSight LC/MS/MS system with the QSight LX50 high-performance UHPLC, provides the capability and confidence required to analyze the most complex meat and seafood samples. With the highest level of sensitivity and throughput, you'll be able to meet even the most stringent regulatory requirements rapidly, easily, and effectively.

MaxSignal ELISA Kits
Our easy, sensitive, and high-throughput ELISA platform can help you screen for a wide range of antibiotic residues and hormones in meat and seafood samples, including tetracyclines, sulfonamides, beta-lactams, and fluoroquinolones. Advantages include: ready-to-use standards for key antibiotics, sensitive detection, and a broad range of kits for veterinary residue screening.

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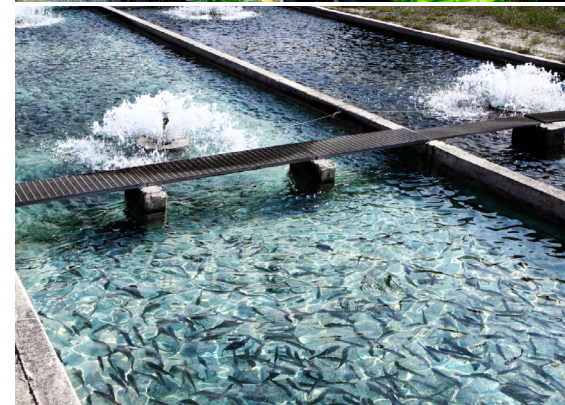
RESIDUE AND CONTAMINANTS TESTING WORKFLOW

View our testing solutions for meat and seafood.

SCREENING	ANALYTICAL CONFIRMATION

MaxSignal ELISA Kits

DS2 Automation

Supra Clean SPE

Vacuum Manifold

SPP C18 Column

QSight LX50 UHPLC

QSight LC/MS/MS Simplicity Software

SAMPLE PREPARATION	CHROMATOGRAPHY	DETECTION

**For more information
on residue and
contaminant testing,
read our application notes.**

Qsight application to test
for vet residues in chicken

Qsight application to test
for nitrofurans in shrimp

MaxSignal HTS platform to
test for nitrofurans in shrimp

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SUPERIOR TESTING FOR QUALITY FOODS

Meat and seafood producers are challenged with operating in diverse, complex supply chains that are tightly regulated across the globe. Processors must ensure nutritional and compositional quality throughout the entire process.

We provide state-of-the-art testing solutions that analyze raw meat and seafood, ensure process efficiency, and verify finished products. Our solutions are based on proven technologies, user-friendly software, and ready-to-use methods.

What's more, our systems are capable of covering thousands of sample types – so whatever type of meat products you produce, our solutions can help you reduce costs while improving quality.

TESTING FROM START TO FINISH

Screening Ingredients
Rapid, accurate on-site decisions help eliminate out-of-spec materials and calibrate formulations.

Monitor and Optimize Production
Precise and reliable measurements maximize efficiency and profit.

Verify Finished Product Quality
Consistent final product minimizes quality variations and improves customer satisfaction.

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OPTIMIZING YOUR PROCESS

As meat and seafood producers and processors, you're faced with nutritional and manufacturing process challenges every day. Samples need to be analyzed quickly to determine whether they meet your exact specifications.

Rapid testing is also needed to isolate products by quality for optimal use and to develop consistent products by modifying meat and seafood blends for fat, moisture, ash, protein, and collagen, and more.

Our near-infrared (NIR) analyzers, at-line and in-line, measure in-production samples and help you control the manufacturing process. With fast, accurate results, adjustments can be made in real time to better meet target values. They also improve process variability and reduce rework, which optimizes margins.

ROBUST NIR PRODUCTS

DA 6200™
Our diode array near-infrared transmission spectroscopy system helps you conduct quality and process control more accurately and easily – all in just 30 seconds.

DA 7250™
Our third-generation diode array NIR instrument analyzes samples in just 6 seconds, determining moisture, protein, fat, ash, starch and many other parameters with excellent accuracy.

DA 7440™
Our advanced, modern, and versatile on-line NIR sensor performs real-time multi-constituent measurements of a product, delivering information for process control and quality monitoring.

DA 7300™
Our in-line NIR analyzer provides immediate, real-time information about a product as it is produced – no more waiting for laboratory measurements.

NetPlus
A powerful networking and reporting software suite for NIR, NIT, and FTIR instruments, it monitors production, verifies quality of ingredient shipments, and updates you on the latest analyses.

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TECHNOLOGY THAT SUITS ALL YOUR TESTING NEEDS

From testing proximates to minerals and metals to vitamins and acids, our portfolio of solutions works with you to achieve accurate results fast.

▶ **PROXIMATES**

TESTING FOR PROXIMATES

The DA 7250 system is ideal for determining fat, moisture, protein, collagen, salt, ash, water activity, and more in fishmeal, fish, and processed meats in less than 10 seconds.

Our cost-effective DA 6200 NIR analyzes any type of ground or homogenized meat sample with extreme accuracy. Fat, moisture, protein, and other parameters can be determined in just 30 seconds.

See the DA 6200 in action.

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TECHNOLOGY THAT SUITS ALL YOUR TESTING NEEDS

From testing proximates to minerals and metals to vitamins and acids, our portfolio of solutions works with you to achieve accurate results fast.

▶ **MINERALS AND METALS**

TESTING FOR MINERALS AND METALS

Our PinAAcle™ AA instrument is rugged, easy to use, and ideal for small operations analyzing individual elements.

Our Avio® ICP-OES system handles complex meat and seafood matrices at a high throughput.

For the most demanding applications – including speciation – our NexION® ICP-MS instruments are proven to deliver.

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TECHNOLOGY THAT SUITS ALL YOUR TESTING NEEDS

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TESTING FOR VITAMINS, FATTY ACIDS, AND AMINO ACIDS

▶ **VITAMINS, FATTY ACIDS, AND AMINO ACIDS**

The Flexar™ HPLC and Clarus™ GC instruments can provide amino acid, vitamin, and fatty acid profiles of ingredients, to ensure products meet nutritional requirements.

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TECHNOLOGY THAT SUITS ALL YOUR TESTING NEEDS

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▶ **PROXIMATES**

▶ **MINERALS AND METALS**

▶ **VITAMINS, FATTY ACIDS, AND AMINO ACIDS**

▶ **RHEOLOGY**

RHEOLOGY TESTING

The Rapid Visco Analyzer measures performance of a variety of ingredients in meat products, including texture-enhancing characteristics like starches, binders, gels, and stabilizers. It also verifies that materials meet performance specifications before they enter production.

Click here to explore our solutions at a glance. ▶

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SOLUTIONS

Whether you're testing for residues and contaminants in meat products, or nutrition and composition in seafood samples, we have the right solution to answer all your analysis needs, from instrumentation to accessories to software and service.

	PATHOGEN AND MICROBIOLOGY			RESIDUES AND CONTAMINANTS				NUTRITION AND COMPOSITION				SOFTWARE & SERVICES	SAMPLE PREP & AUTOMATION
	Environmental Monitoring	Quality Indicator Testing	Pathogen Detection	Veterinary Residues and Toxins	Heavy Metals	Other Contaminants and Adulterants	Allergens	Proximates	Vitamins and Minerals	Fatty Acids and Amino Acids	Rheology		
Avio ICP-OES					•				•				
NexION ICP-MS					•				•				
PinAAcle AA					•				•				
QSight LC/MS/MS				•		•	•		•				
Clarus SQ8 GC/MS				•		•							
MaxSignal ELISA Kits				•		•							
MaxSignal Microplate Reader				•		•							
Solus Pathogen ELISA	•		•										
Solus One Pathogen ELISA	•		•										
Solus Culture Media	•		•										
Dynex DS2 ELISA System	•		•	•									•
MicroFast Rapid Film		•	•										
Flexar HPLC				•		•			•	•			
Lambda UV						•							
SP3 FT-IR						•		•		•			
DA 6200								•					
DA 7250 SD At-line NIR								•					
DA 7300 In-line NIR								•					
DA 7440 On-line NIR								•					
RVA											•		
Janus G3 Workstation													•
Titan MPS													•
QuEChERS				•									•
Supra Clean/Pol SPE				•									•
NetPlus												•	
E-Notebook												•	
TIBCO Spotfire®	•											•	
OneSource												•	

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ACCURATE ANALYSIS STARTS WITH STEP ONE

Sample preparation is an integral step of meat and seafood analysis. The complexity and diversity of the tissues and ingredients can make testing a challenge, especially at the very beginning of your process. Matrix interferences from lipids, enzymes, proteins, and carbohydrates can impact the accuracy of your analysis – either by immunoassay screening methods or analytical chemistry workflows.

As market consolidation continues and pressure mounts to keep costs low, it's necessary to rely on efficiency and predictability in your workflows. You can count on us and our technology to deliver. Our automation for sample prep, liquid handling, and detection enables lower costs per sample, more traceability, and better reproducibility.

We offer a range of fast, easy, and selective sample preparation and automation solutions for meat and seafood testing workflows.

QuEChERS (Quick, Easy, Cheap, Effective, Rugged, Safe)
Our Supra-d™ QuEChERS dispersive SPE turns sample preparation into an easy two-step process by using the QuEChERS method. It eliminates complex liquid extraction methods and extends the range of recovered residues and contaminants. The QuEChERS procedure is fast and easy, improving lab productivity and resulting in fewer errors.

Titan MPS™ microwave sample preparation systems are simple to use and highly effective – even on the most difficult samples. Plus, they integrate seamlessly with our AA, ICP-OES, and ICP-MS instruments for ease and convenience.

JANUS® G3 automation workstations provide real-time and future adaptability in throughput, capacity, and dynamic volume range from 0.5 µl to 5000 µl for consistent and reproducible sample preparation. Includes your choice of pipetting heads, gripper options, and application accessories for complete, walk-away automation.

Dynex DS2 features a small footprint and fits discretely into any lab environment. The user-friendly software takes you through the procedure one step at a time, and on-screen instructions guide you from loading of samples to seeing test results. All assays can be fully automated – once the test is set up, you can walk away to tackle other lab duties.

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SOFTWARE THAT SETS THE BAR

Analysis software, data reporting, electronic lab notebooks – software is the glue that holds a solution together, and ours helps you get the most out of your instrumentation and your dairy analysis.

With the right software, you can efficiently determine accurate results from your meat and seafood analysis. Software enables you to:

- Remain compliant
- Develop product
- Capture results in an easy-to-navigate database

- Measure and track operational efficiency
- Easily keep records for trending analysis
- Analyze hazards for future course correction

PerkinElmer NetPlus™

Monitor your analysis results and configure your NIR instruments from anywhere, at any time with our web-based NetPlus software suite. It lets you monitor production, verify quality of ingredient shipments, get an update on latest analyses, and see results in tables and charts on your laptop. NetPlus Remote lets you configure instruments, monitor performance, and update calibrations.

EN E-Notebook

Trade labor-intensive, unreliable paper-based processes for our intuitive, flexible, and collaborative electronic lab notebook (ELN). E-Notebook has modules and capabilities for chemistry, formulations, biology, and material science disciplines – it's the perfect enterprise-wide solution for your organization.

TIBCO Spotfire®

Quickly uncover insights into your data with simple-to-use and easy-to-build TIBCO Spotfire® dashboards. Mine scientific and business data with ease, and gain insights in real-time. And, with TIBCO Spotfire®, you can import data from disparate sources and gain insights in just minutes.

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AT YOUR SERVICE

It's not easy navigating the ever-changing complex world of meat and seafood analysis. Every step and function in your processes must work toward the common goal of improving productivity.

OneSource® Laboratory Services has built a complete suite of solutions that provides the knowledge, applications, services, and manpower you need – including uptime optimization, lab analytics, and workflow solutions. Real-time reports allow you to make informed decisions about your lab, while expert guidance helps you tackle compliance issues.

OneSource is the single-service organization that understands your needs around service and support, delivering a customized systems approach to your success. With a full measure of insight and expertise, our consultants can pinpoint the issues and inefficiencies and engineer the right solutions to solve your scientific and business challenges.

From relocation services and everyday instrument repair to preventive maintenance and method development services, we can help streamline your processes and get your workforce back to its main order of business.

One▸Source®
Laboratory Services

- Asset Optimization
- Multivendor Services
- Lab Relocation Services
- Instrument Qualification Services
- Laboratory Compliance
- Remote Support Services
- Education and Training

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For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

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