International Industry Service Company Oy
(IISCO, Helsinki, Finland)

IISCO at glance

Operations map

- **> 25 years in the industry**
- **Serving customers globally**
- **Integrated biological/non-biological substance testing/discovery services within the IISCO Company**
- **In total >39 direct scientists involved (92% Ph.D.)**

Finland

- **Feed Chemistry & Microbiology**
- **In vitro study (aquaculture, broiler, cow, duck, swine, dog, and cat models)**
- **Mineral Testing**
- **Mycotoxin Binding Capacity of New Material**
- **Antimicrobial Effectiveness New Material in Feed**
- **Protein and Fat Digestibility Studies**
- **Antioxidant Activity**
- **Bacterial Endotoxin & Enterotoxin Binding Capacity of New Material**
- **Evaluation of Prebiotic Capacity of Dietary Fibers**

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What makes the IISCO company authentic?

- **Comprehensive Expertise Under**
  - ✓ A multidisciplinary team delivering end-to-end solutions.
- **Collaborative Expertise**
  - ✓ Team up with our well-stablished partners with diverse specialists to fulfill all project requirements.
- **Tailored Study Plans**
  - ✓ Simplifying, drafting, and designing plans that meet client needs.
- **Seamless Project Execution**
  - ✓ From establishment to monitoring and data collection.
- **Clear and Actionable Insights**
  - ✓ Simplifying complex data for informed decision-making.
- **Client-Centric Flexibility**
  - ✓ Extending studies and adapting to evolving client needs.

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Service packages – Feed additives –Techno additives

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Services for animal feed/feed additives

Laboratory Expertise and Services
Our laboratory specializes in **advanced in vitro gastrointestinal simulation systems** developed for ***aquaculture, ruminant, broiler, swine, dog, and cat*** models. The following testing areas are available:

Mineral Analysis Studies (In Vitro)
Comprehensive determination of essential and trace minerals in simulated gastrointestinal systems
Outcome: Quantitative mineral profile (Ca, Mg, K, Na, Fe, Zn, Se, etc.), elemental bioaccessibility, and evaluation of potential contaminants (e.g., Pb, Cd, Hg, As).

Mycotoxin Binding Capacity Studies (In Vitro)
Evaluation of the ability of binders or functional ingredients to adsorb mycotoxins under physiologically relevant gastrointestinal conditions.
Mycotoxins tested: DON, aflatoxins (B1, B2, G1, G2), ZEN, fumonisins, OTA, HT-2, T-2
Outcome*:* Reduction percentage of each mycotoxin (LC-MS/MS analysis)

Protein Digestibility Studies (In Vitro)
Comprehensive evaluation of protein digestibility and peptide bioactivity during simulated gastric and intestinal phases.
Outcome: Protein digestibility percentage, peptide profile, amino acid profile (Aspartic acid, Glutamic acid, Alanine, Arginine, Cystine + Cysteine, Phenylalanine, Glycine, Hydroxyproline, Isoleucine, Histidine, Leucine, Lysine, Methionine, Proline, Serine, Tyrosine, Threonine, Tryptophan, Valine, and Total Amino Acids).

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Services for animal feed

Fat Digestibility Studies (In Vitro)

Comprehensive assessment of lipid hydrolysis levels through quantification of free fatty acids during storage or processing stages.
Outcome: Percentage of free fat & full free acid profile

Evaluation of Prebiotic Capacity of Dietary Fibres Studies (In Vitro)

Determination of the prebiotic potential of new feed ingredients
Outcome: Bacterial (different strains) growth, pH shift, and fermentability index.

Antimicrobial Effectiveness in Feed

Assessment of the ability of ingredients or preservatives to reduce microbial (Mold and bacteria) contamination in feed materials such as ground corn and compound feed.
Outcome*:* Reduction of bacterial (different strains) and fungal (different strains) load compared to untreated feed

Antioxidant Activity Assays Studies (In Vitro)

Determination of antioxidant potential through **DPPH** and **$ABTS^{+}$** free radical scavenging activity tests.
Outcome*:* Quantitative data (%), **DPPH** and **$ABTS^{+}$** free radical scavenging activity

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Services for animal feed

Vitamin D, E, K, A, B1, B2, B3, B7, B9 Analysis Studies (In Vitro)

Comprehensive determination of Vitamin D, E, K, A, B1, B2, B3, B7, B9 in simulated gastrointestinal systems
Outcome: Quantitative vitamin profile (HPLC-MS/MS method) and elemental bioaccessibility

Evaluation of the Binding Capacity to Bacterial Endotoxin Studies (In Vitro)

Assessment of the ability of new materials to bind and neutralize bacterial endotoxins (lipopolysaccharides) under **simulated animal gastrointestinal conditions**, using a **THP-1 cell model**.
Outcome*:* Quantitative data on both chemical (LAL test) and biological (THP-1 cell assay) endotoxin binding efficiency.

Evaluation of the Binding Capacity to Bacterial Enterotoxins (In Vitro)

Assessment of the ability of new materials to bind bacterial enterotoxins under **simulated animal gastrointestinal conditions**, using a **THP-1 cell model**
Outcome: Quantitative data on biological assays (THP-1 cell model response) to determine enterotoxin binding.

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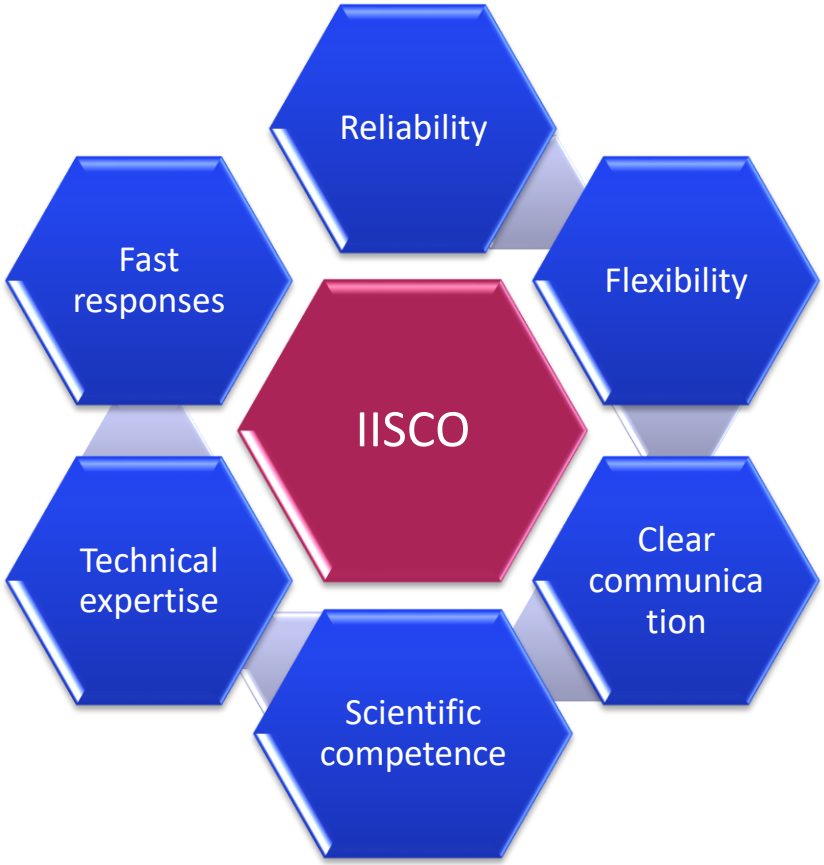
Why our customers love working with us



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