



Plant, Animal and Fish Metabolism Studies

Integrated Metabolism Services for Fast, Reliable Answers

Battelle can help you move your products to market quickly and confidently with coordinated, customized plant and animal metabolism studies (livestock metabolism and feeding studies) designed for reliable regulatory compliance. We offer comprehensive study design, management, and execution provided by a highly experienced team of experts and technicians, all operating under Good Laboratory Practice (GLP) in modern and well-equipped laboratories to fully meet global regulatory guidelines.

Comprehensive Study Design and Directorship

We can help you at every stage of the process, from needs assessment and complete study design to management, execution and dossier development. We can perform single studies for product registration as well as complex, customized projects tailored to meet your unique requirements. Our Study Directors ensure that excellent communication is maintained between the client and principal investigators.

- Study design (including species or crop selection and method selection)
- Study monitoring and project management
- Residue definition
- Dossier preparation and follow-up

Plant Metabolism and Rotational Crop Studies

Get accurate, defensible data with Battelle's state-of-the-art equipment and analytical techniques. We perform studies on a full range of crops including cereals, vegetables, fruit and vines.

- Plant metabolism and confined rotational crop metabolism studies conducted to appropriate US, European and Japanese guidelines in either controlled greenhouses or dedicated field plots.
- Formulation of the radiolabelled test item for application (pre-emergence and post-emergence) including seed treatments.
- Determination of total radioactive residues (TRR), metabolite profiling and identification
- Structure elucidation using LC-MS/MS

Livestock Metabolism and Residue Studies (Analytical Phase)

Together with our partners, Battelle can offer a full range of livestock metabolism and residue studies designed to meet US, OECD, EPA and JMAFF guidelines.

- Metabolism and nature of the residue in goats, cows, pigs and hens
- Radiovalidation studies
- Livestock feeding studies (residue transfer studies)
- Veterinary residue studies in livestock (poultry, cows, and pigs)

Fish Metabolism

Not all crop commodities will be used, either directly or after processing, in fish feed. For those that are, the calculation of residues in fish feed is based on an assumed diet composition which will provide a maximum reasonable balanced diet (MRBD). Battelle can help you to determine whether fish metabolism and feeding studies are necessary.

If these studies are required, Battelle can provide support in both the study design and the monitoring of the study in-life phase that would be conducted by one of our partners. Battelle will perform the analytical phase and will prepare the study report.

BATTELLE



The Battelle Advantage	
BENEFIT	DESCRIPTION
Comprehensive metabolism services	Provides extensive data on substance degradation mechanisms, routes, and rates
Radiolabelled test items	Utilizes radiolabelled test items (^{14}C) for simplified detection and analysis of the test item and its degradates/metabolites
Structure elucidation	Experts in metabolite identification (LC-MS/MS) use accurate mass determination and state-of-the-art technology
Extensive experience with unknown metabolites	LS-MS scientists have significant expertise in identifying unknown metabolites
NMR outsourcing	NMR requirements can be outsourced to a specific provider
Tailored study design	Customizable study design to meet specific client needs, including non-GLP pre-studies for optimal results
Highly experienced study directors	Over 50 years of collective expertise in environmental fate and metabolism, ensuring professionalism and scientific rigor
Compliance with GLP regulations	All studies performed according to Good Laboratory Practice regulations, ensuring reliability, consistency, and integrity of the data generated
Fast turnaround time	Commitment to delivering fast turnaround times for studies, enabling efficient progress through the regulatory process
Long-term sample storage	High-capacity facilities for long-term sample storage, facilitating re-analysis and future inquiries
Regulatory support	Battelle's regulatory expert group supports all product safety testing solutions, including study monitoring, risk assessment, and successful dossier preparation and submission
Collaboration with regular courier	Guaranteed quick delivery of test items (radiolabelled and non-radiolabelled) through collaboration with a regular courier
Partnerships with radiosynthesis laboratories	Existing network ensures optimal synthesis routes and faster delivery of radiolabelled test items; monitoring and review services available
In-house re-purification service	Option to perform in-house re-purification if required