

Research and Development



ABT Innovia is an independent aquatic, aquaculture, biotechnology research facility that forms part of **AquaBioTech Group**.

AquaBioTech Group is an international aquaculture and fisheries consulting company strategically located in the Mediterranean, on the island of Malta. It operates globally, with clients and projects in over fifty-five countries. Staff are recruited from across the globe, enabling communication with clients in thirteen languages.

AquaBioTech Group undertakes a variety of aquaculture, fisheries, marine surveying, aquatic environmental, financial, and technical projects, performed with its selected, worldwide partners.

The main areas of contractual industrial research undertaken for our clients and expertise are:

AQUATIC NUTRITION RESEARCH / STUDIES

The fish nutrition facility is available to international companies to benchmark commercially available products and carry out investigative research on new products, by the new formulations or specialised novel ingredients providing new approaches to improving fish growth, reducing environmental impacts or improving fish health. In-depth detailed research, such as digestive physiology, metabolic biochemistry and quality issues can also be undertaken at the facility in a wide variety of species.

HATCHERY TECHNOLOGY AND PRODUCTION TECHNIQUES

The research facility hosts a fully operational hatchery using the very latest technology working towards developing new techniques for improving hatchery production / efficiency and knowledge of new species production in both commercial and ornamental aquaculture.

VETERINARIAN RESEARCH

The veterinarian unit is geared towards undertaking various aspects of applied research into vaccine development, testing, efficacy and challenge trials as well as viral, bacterial and parasitic diseases in aquatic animals.

BIOMEDICAL / NUTRACEUTICAL RESEARCH - BIOPROSPECTING

Research into various applications of aquatic based products for use in nutrition as well as human and veterinarian medicines is also available as the resources of the sea continue to yield many new products.



MAIN RESEARCH AREAS

- Product research and reporting / benchmarking
- New/alternative species research
- Nutrition / feeding trials- Commercial and ornamental aquaculture species
- Vaccine, efficacy and safety testing and challenge trials
- Technology testing, commercial development and technical direction
- Technical support and testing for new products
- Hatchery training facilities, including live feed and larvae culture

Research and Development



TESTING FACILITIES AND CORE SERVICES

The wet-labs at the facility are divided into separate areas so as to ensure maximum biosecurity and client confidentiality. Each of the wet rooms contains a set of holding tanks with self-contained recirculation systems providing high-level mechanical, chemical and biological filtration. All systems are stage filtered down to 1µm and have the option of continuous UV or Ozone treatment. Systems operate with fresh or seawater with temperatures ranging from 10°C to 32°C. Multiple RAS units can be operated within one facility, isolating batches of tanks.

The fully operational research hatchery offers both research and training facilities with complete live feed production of rotifers (*Brachionus* sp), *Artemia* sp. and various algae species (*Nanochloropsis*, *Tetreselmis*, *Isochrysis*; *Chaetoceros*, *Chlorella*, *Pavlova* and *Skeletonema*).

Each of the rooms can be used for a variety of research purposes including:

- Larviculture: Including production strategies for new species, early weaning larval diets, live-feed replacement diet testing, feeding strategies, live feed production techniques and enrichment.
- Veterinarian and pathology research: Such as vaccine testing, pathogen challenge trials, probiotics, immunostimulants and efficacy and safety testing.
- Nutritional research: Such as new feed ingredients, specialised feed additives, pre and pro-biotics, digestive physiology studies, nutrient requirements, gastric evacuation and biochemical studies and feed formulation. Broodstock nutrition- effect on egg / larvae quality.
- Eco-toxicology research: Such as residue testing, bioaccumulation of heavy metals and other water and feed-borne contaminants. The facility also has its own laboratory and strong associations with local and international laboratories who are able to conduct more complex analysis work where required.
- Ornamental, Novel and Carrier Species: Koi Carp (*Cyprinus carpio*), Angelfish (*Pterophyllum scalare*), Zebra Danio (*Danio rerio*), Rotifers (*Brachionus* sp), *Artemia* sp.

