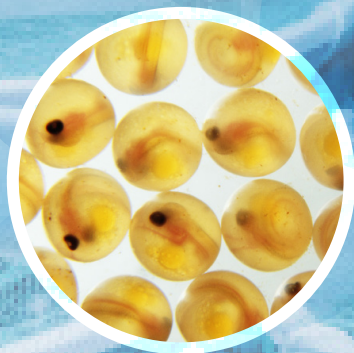
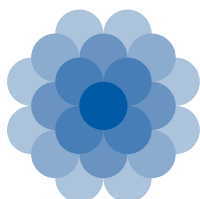


TECHNOLOGY
PRODUCT
SERVICE



REPRODUCTION



XRAQ

XARXA DE REFERÈNCIA D'R+D+I EN AQUÍCULTURA
DE LA GENERALITAT DE CATALUNYA

DESCRIPTION AND EXPERIENCE

- ✓ Scientists from 2 independent research groups with decades of experience in fish reproduction techniques. These researchers are used to work with private companies to solve their industrial challenges.
- ✓ Target species: Seabass (*Dicentrarchus labrax*), Sea bream (*Sparus aurata*), Turbot (*Scophthalmus maximus*), Sole (*Solea senegalensis*), Atlantic Salmon (*Salmo salar*), Rainbow trout (*Oncorhynchus mykiss*)
- ✓ Collaboration with companies: Rara Avis Biotech, Culmarex, Base Viva, Stolt Sea Farm, Pescanova, Piscimar; Sun Aquarium, Singapur; Akvatek, Turquia; Safistela, Portugal ...
- ✓ Generated patents and know-how: Method for the thermal control of sex ratio in sea bass. (ES 2346122 B1), use of recombinants gonadotropins for the control of reproduction in cultivated teleosts.

BENEFITS AND APPLICATIONS

- ✓ Design of recombinant single-chain precursor molecules.
- ✓ Production of recombinant gonadotropins in yeast (*Pichia pastoris*) and mammalian cells (Chinese hamster ovary cells).
- ✓ Also use Zebrafish as experimental model.
- ✓ Development of enzyme-linked immunosorbent assays (ELISAs) for gonadotropin measurements in plasma and biological tissues.
- ✓ Determination of sexual steroids in plasma by ELISA and radioimmunoassay (RIA).
- ✓ Computer assisted sperm analysis in cultured teleost species.
- ✓ Design of protocols for the administration of recombinant gonadotropins and gonadotropin-releasing hormone analogs (GnRH_a) to cultured fish for reproduction control.
- ✓ Design of diets for broodstock fish to improve gamete quality.
- ✓ Development of methods to determine reproductive behavior and chemical communication in broodstock fish.
- ✓ Sexual maturation development in fish (physiological and molecular approach).
- ✓ Sexual determination and differentiation. Evaluation of the effect of environmental factors as temperature in those processes (epigenomic and transcriptomic approaches).