

Giant Amazon Redfish

Arapaima gigas

Sex Determination kit

An easy-to-use, sensitive, specific and rapid test to sex *Arapaima gigas* fishes

Easy-to-use

High Specificity providing reliable results

Interpretation of the results easy to perform
(with naked eye)



Rapidity

(~ 3 hours)

High Sensitivity

(~ 0,04 mg/mL of VTG in blood fish)

Standardization of reagents and detection process

AN EASY-TO-USE AND RAPID TEST

The Mini-Array sex determination kit is rapid to implement: reactions can be carried out within 3 hours.
The kit contains all the reagents to perform 24 tests in less than half a day.

The technique has the advantage of being practically non-invasive: it does not require anaesthesia, which often endangers fish survival.



No specific laboratory equipment is required: only syringe and disposable needle for blood collection must be supplied by user.

The membranes provided with the kit are ready-to-use. They contain the capture antibodies raised against *Arapaima gigas* vitellogenin

The user has just to deposit fish blood samples onto the membranes to detect the vitellogenin presence.
Thus, this method can be easily used in fish farms or hatcheries by non-specialist people

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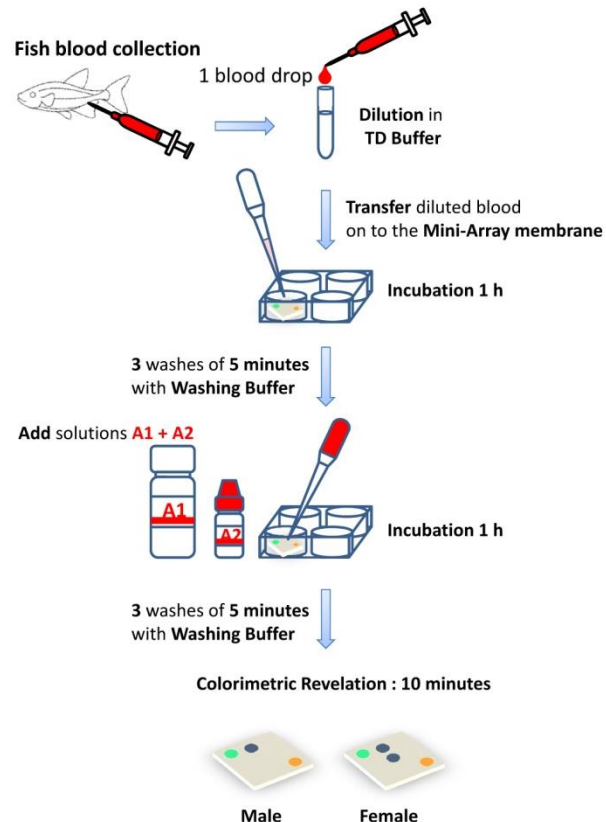
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THE PROTOCOL AT A GLANCE

The test is based on an enzyme-linked immunosorbent assay (ELISA) that is used to detect Vitellogenin in fish blood.

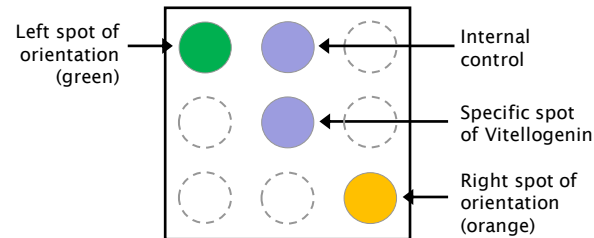
A vitellogenin-specific capture antibody immobilized on the membrane enables capturing vitellogenin which is detected by a specific antibody linked to an enzyme which produces a blue mark on the membrane.



1. Blood Collection: *10 minutes*
2. Incubation with Mini-Array membranes and washes: *1 hour and 15 minutes*
3. Incubation with A1 + A2 and washes: *1 hour and 15 minutes*
4. Revelation: *10 minutes*

A SIMPLE INTERPRETATION OF THE RESULTS

The vitellogenin-specific capture antibodies are already immobilized on the membranes at a predefined position. So, the results interpretation is simple, it can be done without any material, at the naked eye.



Presence of VTG in the blood: FEMALE		Enzymatic and immunological reactions are validated. The fish is a female.
Lack of VTG in the blood : MALE (or immature female)		Enzymatic and immunological reactions are validated. The fish is a male if it is an adult. It may be an immature female if it is a juvenile.
Invalid test		Enzymatic and immunological reactions are NOT validated. No conclusion can be inferred.

THE KIT COMPONENTS



Reagents and materials necessary to test 24 blood samples

- 24 ready-to-use Mini-Array membranes
- 6 four well plates
- Heparin solution
- 24 microtubes of dilution buffer
- Solutions: A1, A2, B
- Buffers: washing and stopping
- Disposable plastic pipettes
- 1 forceps
- User handbook

Reagents to be supplied by user

- Syringes and needles

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