

Eggyolk antibodies and its application in aquatic animal health management

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Although, aquaculture has developed significantly, significant contribution has not been done towards disease diagnosis and control. The success of any farm operation depends on health management systems. For this, proper disease diagnosis, prophylactic measures and control measures should be provided. The need of the day is quick, sensitive and specific tests that do not require sophisticated laboratory facilities and should be performed on-site. For this purpose there is a need for specific antibodies for designing and use of different immunodiagnosics. Secondly, there is a great scope for integration of passive immunization i.e. IgY immunotherapy which is a latest concept in health management. Specific antibodies produced in chickens offer several important advantages over producing antibodies in other mammals. A single egg contains as much antibody as an average 20 ml bleed from a rabbit. This simple, non-invasive approach presents an appealing alternative to conventional polyclonal antibodies production methods. Purification of chicken egg yolk immunoglobulin Y (IgY), does not require animal bleeding. In addition, the eggs from immunized chickens provide a continual, daily source of polyclonal antibody, and this convenient approach offers greater compatibility with animal protection regulations. These IgY antibodies could be used for either developing immunodiagnostic kits or in passive immunotherapy against diseases. This will reduce the use of chemicals/antibiotics etc. in the aquatic environment.

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