

## How to reach?

- ★ Customers shall submit a request letter for the contract either through email **dfqamfcricri@gmail.com** or letter to the **Quality Manager, TRL-FQMC, DFQAM, FC&RI, Thoothukudi.**
- ★ Customers shall submit the samples in the Customer Support counter in the laboratory premises directly in good condition packed in suitable containers. Sample collection at the industry premises will be done at extra cost.
- ★ Customers must pay the specified fee **in advance**. The fee shall be paid for the specified analysis either by
  - By cash (or)
  - By advance DD drawn in favour of the “Professor and Head, DFQAM”, payable at Thoothukudi (Tuticorin) (or)
  - By e-transfer “Professor and Head, DFQAM” Union Bank of India, Tuticorin Main Branch, **SB A/c No. 364902010103163; IFSCcode:UBIN0536491** - a copy of the payment detail shall be submitted with the request letter.

*For further any clarifications, please contact*

**Our motto :** • Quality • Safety • Authenticity

### Customer Support

#### Customer Co-ordinator

TRL - FQMC  
Fisheries College and Research Institute  
TNJFU, Thoothukudi – 628 008  
Tamil Nadu  
Email.: [dfqamfcricri@gmail.com](mailto:dfqamfcricri@gmail.com)  
Ph : 0461 - 2341576

#### Quality Manager

TRL - FQMC,  
Fisheries College and Research Institute TNJFU,  
Thoothukudi – 628 008  
Tamil Nadu  
Email : [jeyashakila@gmail.com](mailto:jeyashakila@gmail.com)  
Mobile: 094434 53184



**NABL Accredited Laboratory**  
(as per ISO 17025:2005 requirements)



TC-8265

## Analytical Services Profile



TNJFU Referral Laboratory for Fish Quality Monitoring and Certification  
Department of Fish Quality Assurance and Management  
Fisheries College and Research Institute  
Tamil Nadu Dr. J. Jayalalithaa Fisheries University, Thoothukudi - 628 008

2020

## Preamble

Fish and fish products are the largest traded commodity in agricultural exports of India composing 20% of agriculture exports and 10% of the total exports. India's fish export sector is a thriving market earning huge revenue. The USA, South East Asia and the EU are the largest destination for Indian seafood. The seafood exporters are facing pressure from importing nations on food safety monitoring programmes. Owing to the stringent quality and safety standards, Indian seafood products quite often banned or blacklisted in trade. The major safety problems are associated with microbiological, chemical and other traceability issues.

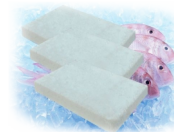
In India, Export Inspection Council (EIC) is the authorized agency to (regulate) the export of fish commodity by establishing guidelines for monitoring the quality and safety criteria of fish products and by providing testing services in accredited laboratories. The Food Safety and Standards Authority of India (FSSAI) is the authorized authority to monitor the quality of fish products marketed for domestic consumption. The EIC and FSSAI approves seafoods product testing laboratory accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) to provide professional analysed testing services to fish business operators, fish traders, fish farmers, small scale entrepreneurs, fish consumers, students and researchers.

## Our Laboratory

**TNJFU** Referral Laboratory for Fish Quality Monitoring and Certification (TRL-FQMC) is attached with the Department of Fish Quality Assurance and Management is functioning in Fisheries College and Research Institute Campus of Tamil Nadu Dr. J. Jayalithaa Fisheries University. The laboratory has obtained accreditation from NABL (TC-8265) for Quality Testing of Fish Products on fulfilling the requirements of ISO/IEC 17025:2005 for a period of two years since January 2019. This laboratory provides analytical testing services that can help to reduce the food safety and quality risks associated with seafood. This laboratory use approved and validated protocols for testing the products to provide confidence the customers. The laboratory has participated in proficiency testing programmes and has proved the competency in International arena. Our analytical profile services can therefore help to solve the quality and safety issues associated with the products and improve your product marketability.

## I. Functional Properties Tests

1. Water holding capacity	₹ 200/-
2. Protein solubility at pH 7.0	₹ 500/-
3. Viscosity (Oswald viscometer)	₹ 300/-
4. Fat binding capacity	₹ 200/-
5. Foam stability ability	₹ 300/-
6. Emulsion capacity	₹ 300/-
7. Shrinkage factor	₹ 300/-
8. Gel strength (UTM)	₹ 300/-



## J. Seafood Authentication

1. Authentication of Shrimps by PCR	₹ 1,500/-
2. Authentication of Crabs by PCR	₹ 1,500/-
3. Authentication of Grouper by PCR-RFLP	₹ 1,500/-
4. Authentication of Snapper by PCR-RFLP	₹ 1,500/-
5. Authentication of Sardines by PCR-RFLP	₹ 1,500/-
6. Detection of Shrimp allergen by PCR	₹ 1,500/-



## Need based training

1. LC-MS-MS analysis of antibiotic residues	₹ 10,000/-
2. Molecular techniques in fish quality analysis	₹ 10,000/-
3. FSPCA training	₹ 10,000/-
4. GC-MS analysis of pesticides residues	₹ 7,500/-
5. ICP-MS analysis of heavy metal residues	₹ 7,500/-
6. Microbial testing of fish products	₹ 7,500/-
7. Fish feed compositional analysis	₹ 5,000/-
8. Fish meal and oil analysis	₹ 3,000/-
9. Nutritional Quality Testing	₹ 3,000/-
10. TVB-N analysis	₹ 2,000/-
11. Sulphite residues analysis	₹ 2,000/-



## Viruses (PCR method)

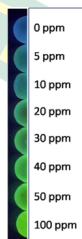
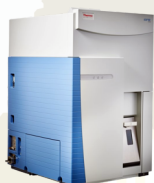
1. White Spot Syndrome Virus (WSSV)	₹ 1,500/-
2. Yellow Head Virus (YHV)	₹ 1,500/-
3. Infectious Hypodermal and Haematopoietic Necrosis Virus (IHNNV)	₹ 1,500/-
4. Tauro Syndrome Virus (TSV)	₹ 1,500/-
5. Infectious Myonecrosis Virus (IMNV)	₹ 1,500
6. <i>Penaeus vannamei</i> NodaVirus (PVNV)	₹ 1,500/-
7. White Tail Disease Virus (WTDV)	₹ 1,500/-
8. EMS causing <i>Vibrio parahaemolyticus</i>	₹ 1,500/-

## G. Chemical Residue Tests

1. Organochlorine Pesticide residues by GC-MS (17 Nos)	₹ 4,000/-
2. Organophosphorus Pesticide residues by GC-MS (8 Nos)	₹ 3,000/-
3. Antibiotic residues by LC-MS/MS (each residue) (Chloramphenicol, Nitrofurazone Metabolites, Oxytetracycline)	₹ 2,000/-
4. Biogenic amines by UPLC	₹ 5,000/-
5. Histamine by UPLC	₹ 1,500/-
6. ATP degradation products by UPLC	₹ 5,000/-
Heavy metals by ICP-MS (each metal)	₹ 750/-
7. Heavy metals by ICP-MS (As, Be, Cd, Cr(VI), Hg, Ni, Pb, Se, Ti)	₹ 4000/-
Multielemental analysis by ICP-MS (each metal)	₹ 750/-
8. Multielemental analysis by ICP-MS (Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Mo, Ni, Se, Sr, Tl, Ti, V, Zn)	₹ 8000/-

## H. Food Additives Tests

1. Residual sulphites (distillation/ titration)	₹ 750/-
2. Benzoates (titration)	₹ 500/-
3. Formaldehyde (Kit method)	₹ 100/-
Formaldehyde (Spectrophotometric)	₹ 500/-
4. Inorganic phosphate as STPP	₹ 750/-
5. EDTA (Titration)	₹ 500/-



## Our Services

1. Fish Product Testing Services
2. Setting up of Fish Quality Testing Laboratory
3. Setting up of Chemical Residue Testing Laboratory
4. Conduct of FSPCA training
5. Conduct of training for Fish Quality control Technologists
6. Conduct of need-based training programmes
7. Consultancy services (need-based)

## Fish Product Testing Services

- A. Nutritional Quality Tests
- B. Biochemical Quality Tests
- C. Microbial Quality Tests
- D. Physical Quality Tests
- E. Organoleptic Tests
- F. Microbial Safety Tests
- G. Chemical Residue Tests
- H. Food Additives Tests
- I. Functional Properties Tests
- J. Seafood Authentication

## A. Nutritional Quality Tests

1. Fatty acid composition (GC-FID)	₹ 4,000/-
2. Amino acid composition (UPLC)	₹ 5,000/-
3. Mineral Composition (ICP-MS)	₹ 5,000/-
4. Moisture	₹ 300/-
5. Total ash	₹ 300/-
6. Acid insoluble ash	₹ 300/-
7. Total salt (sodium chloride) – (titration)	₹ 500/-
8. Crude protein	₹ 500/-
9. Crude fat	₹ 400/-
10. Total carbohydrates	₹ 500/-
11. Inorganic phosphorus (spectrophotometric)	₹ 750/-



## B. Biochemical Quality Tests

1. Total volatile base nitrogen (TVB-N) Distillation	₹ 500/-
2. Trimethyl amine nitrogen (TMA-N) Distillation	₹ 500/-
3. Indole (Distillation / Spectrophotometric)	₹ 750/-
4. Phenol (Distillation / Spectrophotometric)	₹ 750/-
5. Peroxide value (Titration)	₹ 300/-
6. Free fatty acid (Titration)	₹ 300/-
7. Iodine value (Titration)	₹ 300/-
8. Saponification value (Titration)	₹ 500/-
9. Thiobarbituric acid value (Spectrophotometric)	₹ 750/-
10. Available chlorine (Titration)	₹ 500/-



## C. Microbial Quality Tests

1. Total aerobic bacterial count	₹ 250/-
2. Total anaerobic bacterial count	₹ 250/-
3. Total moulds	₹ 250/-
4. Total anaerobic sulfite reducers	₹ 700/-
5. Total vibrios (plating)	₹ 400/-
6. Total coliform (plating)	₹ 400/-
7. Total Staphylococci (plating)	₹ 400/-
8. Total luminescent bacteria	₹ 400/-
9. Total Phages	₹ 700/-
10. Sterility testing of canned products	₹ 1,000/-
11. Total Enterobacteriaceae (plating)	₹ 400/-
12. Total H <sub>2</sub> S producers (plating)	₹ 400/-
13. Total fecal streptococci (plating)	₹ 400/-
14. Total coliforms, fecal coliform and E.Coli (MPN)	₹ 1,500/-
15. Total Staphylococci (MPN/ plating)	₹ 700/-
16. Total <i>Vibrio parahaemolyticus</i>	₹ 700/-
17. Identification of bacteria by 16s rRNA analysis	₹ 3,000/-



## D. Physical Quality Tests

1. pH	₹ 300/-
2. Water activity	₹ 300/-
3. Torry meter reading	₹ 100/-
4. Gas composition (N <sub>2</sub> , CO <sub>2</sub> & O <sub>2</sub> ) analysis	₹ 500/-
5. Tensile strength /Elongation at break (UTM)	₹ 500/-
6. Hardness I & II	₹ 500/-
7. Texture profile analysis ( Two bite)	₹ 750/-

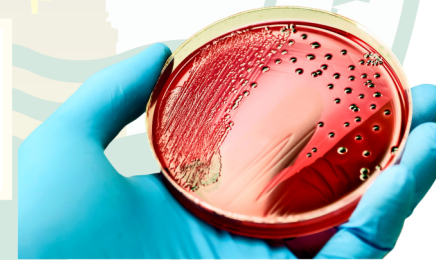


## E. Organoleptic Tests

1. E.U method	₹ 100/-
2. Quality index method	₹ 500/-
3. Torry score method	₹ 200/-
4. Qualitative descriptive analysis	₹ 500/-



## F. Microbial Safety Tests



Bacteria	Presumptive	Biochemical confirmation	Molecular confirmation
1 <i>Salmonella</i>	₹ 750/-	₹ 1,000/-	₹ 1,500/- inv A gene
2 <i>Escherichia coli</i>	₹ 750/-	₹ 1,000/-	₹ 1,500/- pho A gene
3 <i>Vibrio cholerae</i>	₹ 750/-	₹ 1,000/-	₹ 1,500/- ctx A /rtx A gene
4 <i>Vibrio parahaemolyticus</i>	₹ 750/-	₹ 1,000/-	₹ 1,500/- tdh gene
5 <i>Listeria monocytogenes</i>	₹ 750/-	₹ 1,000/-	₹ 1,500/- hly a gene
6 <i>Staphylococcus aureus</i>	₹ 750/-	₹ 1,000/-	₹ 1,500/- nuc gene
7 <i>Aeromonas hydrophila</i>	₹ 750/-	₹ 1,000/-	₹ 1,500/- aah 1 gene