



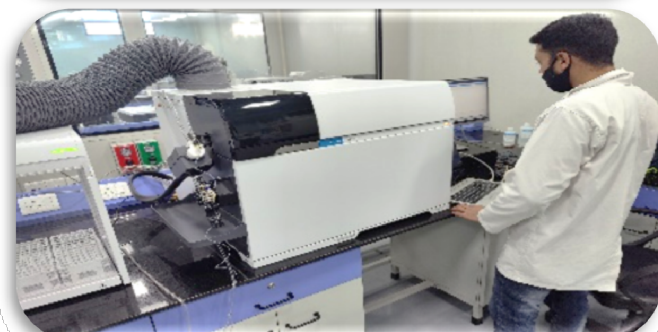
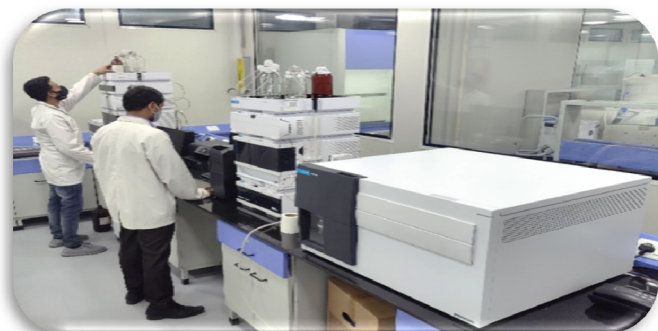
Multani Food Testing Laboratories was established in 2021 for the testing of majorly Food and related products. The only such laboratory in the state of Uttarakhand is equipped with High end, CFR part 11 compliant modern analytical instruments and spread over a complete facility in 9000 sq. ft. area to provide the testing of Food & Agriculture, AYUSH, Animal Feed, Water, Packaging materials and other Healthcare products.

Major Analytical Services:

- ✓ Raw materials testing
- ✓ Intermediates and Finished products testing
- ✓ Compliance testing as per regulatory guidelines
- ✓ R & D and Stability testing
- ✓ Analytical Method development and Validation
- ✓ Analytical Research and technology transfer

Products and Matrices covered under Testing Scope-

1. Food and Agriculture Products
2. Animal Food and Feed products
3. Drinking, Packaged drinking and Natural Mineral Water
4. Food Additives
5. Food Packaging Materials (Plastic & Resins)
6. AYUSH products
7. Hard Goods
8. Herbal Products
9. Nutraceuticals, Nutritional supplements & Functional Foods
10. Fuels and Oils
11. Cosmetics, Essential Oils and Personal Care Products
12. Industrial & Fine Chemicals



Salient Features of Facility

- ✓ One of the most competitive and state of art designed laboratory in 9000 square feet area according to the required norms of regulations and environment, health and safety.
- ✓ Effectively separated chemical, instrumental and microbiological sections to avoid any kind of cross contaminations.
- ✓ Team of well qualified Professionals.
- ✓ Most advanced and improved instruments are installed in laboratory according to the current regulatory and statutory requirements.
- ✓ Well defined system in place to handle the conflict of interest and deviations.
- ✓ Stability Study (Incubation and testing)
- ✓ Analytical method development and validations
- ✓ Contract research in PPP (Public private partnership)
- ✓ Online data management system through LIMS.
- ✓ Designed according to the current EHS norms.
- ✓ Trained Internal Auditors as per ISO/IEC 17025: 2017
- ✓ Use of proper CRMs, RSs, Impurities, WSs, Intermediates to ensure quality results.
- ✓ Support in Analytical Research to Government & Private sectors in most viable way.
- ✓ Support to Academia (Research Projects, Training Programs for Students & Research Scholars) for proper Quality control in Food Industries.
- ✓ Providing Training to needy Personnel on a very Nominal fee with an aim to enhance their skill.
- ✓ 21 CFR Part 11 compliant software systems.



Scope of Analysis

- ✓ Physio-chemical and Sensory evaluation of Food.
- ✓ Identification test and Assay determination by chemical, gravimetric, FTIR, UV/Vis spectrophotometer, UPLC, LC-MS/MS, GC-HS, GC-MS/MS, ICP-MS with LC, TOC analyser etc.
- ✓ Nutritional value testing as per FSSR labelling requirements.
- ✓ Testing of fortified food.
- ✓ Testing of Food adulterants and contaminants.
- ✓ Fatty acid profiling by GC-FID analysis.
- ✓ pH, melting point, boiling point, boiling range, optical rotation, refractive index, turbidity meter, ash values, Water content by Karl fisher and by Dean and Stark apparatus, Loss on drying with vacuum and without vacuum at different temperature etc.
- ✓ Metal contaminants analysis by ICP-MS with LC system up to ppb level.
- ✓ Quantitative analysis of Vitamins, Amino acids, Preservatives, Synthetic and Natural colours, Antioxidants, Polyphenols, Minerals etc. in food and feed by UPLC, ICP-MS and LC-MS/MS analysis.
- ✓ Mycotoxins namely as Aflatoxins B1, B2, G1, G2 and M1 by LC-MS/MS analysis.
- ✓ Naturally occurring toxin substances (NOTS) analysis by UPLC and LC-MS/MS.
- ✓ Pesticides residues (Organochlorine, Organophosphorus, Carbamates, Pyrethroids and many more) analysis by LC-MS/MS and GC-MS/MS.
- ✓ Pesticides, PCB, PAH, THM analysis in drinking and waste water.
- ✓ Antibiotic and other Pharmacologically Active Substances analysis in Food by UPLC and LC-MS/MS.
- ✓ Method development and validations
- ✓ Testing of Food products for proximate namely Protein, Carbohydrates, Fat, Vitamins, Minerals, Dietary fiber and Energy value.
- ✓ Overall migration test and leachable metals, PCB & PAH in Food packaging material.
- ✓ Essential oil scanning by GC-MS/MS.
- ✓ Impurity profiling by ICP-MS, LC-MS/MS and GC-MS/MS.
- ✓ GMO analysis by using RTPCR technique.
- ✓ Analysis of water (Raw, effluent and Purified).



Major Instrument Available in Laboratory-

1. LC-MS/MS
2. GC-MS/MS
3. UPLC with DAD, RI and Fluorescence detector
4. GC-HS with FID and ECD
5. ICP-MS with LC
6. UV-Vis. Spectrophotometer
7. FTIR
8. Microwave Digester
9. TOC Analyser
10. Millipore Milli-Q water purification system
11. Digital Polarimeter
12. Digital Bomb calorimeter
13. Rotational Viscometer
14. Digital Tintometer Fx model
15. Automatic Kjeldahl apparatus for protein determination
16. Automatic Fat determination apparatus
17. Automatic Fiber determination apparatus
18. Horizontal and Vertical Laminar flow units
19. Freeze drier (Lyophilizer)
20. Stomacher for sample homogenization

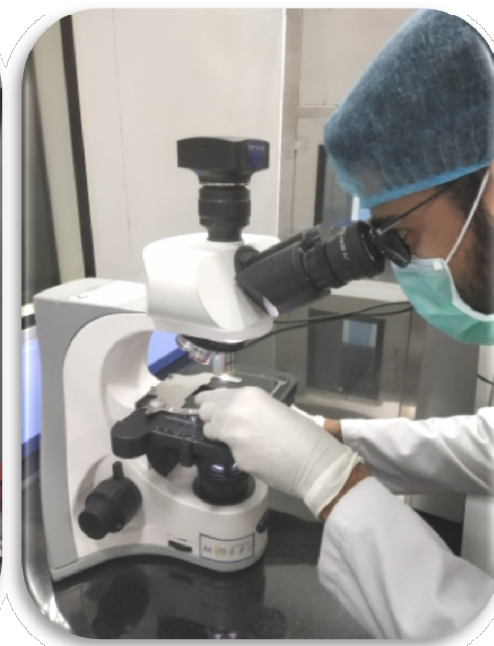
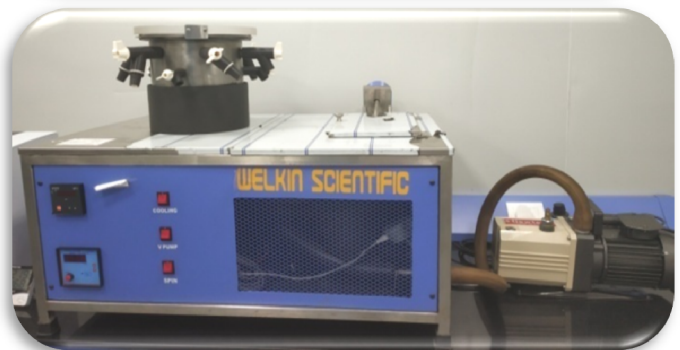




A well designed and state of the art Microbiology laboratory for testing of Food & Agriculture, AYUSH, Animal Feed, Water, Environmental and other Healthcare products.

Salient Features

- ✓ Man and material movement well controlled
- ✓ Separate AHUs (7 nos.) for different areas.
- ✓ Well designed to handle all kinds of the Microbiological analysis.
- ✓ Microbiology lab is equipped with inter locking system and four change room concept to prevent the cross contamination.
- ✓ Only qualified person are allowed to perform the Microbiological testing.
- ✓ About 100+ culture media are available in microbiology lab for different matrices and different parameters.
- ✓ About 20+ standard Microbiological cultures are available for growth promotion and positive control for different culture media.
- ✓ Microbiological Limit Test (MLT) are performed for different types of sample matrices as per AOAC, ISO, API and IS methods.
- ✓ Dynamic pass boxes are used for sample and glass ware movement to prevent the cross contamination.
- ✓ Routine Environmental Monitoring performed to maintain the aseptic testing environment.
- ✓ Pall India Sentino Pump is used for water testing and pathogen testing.
- ✓ HPHV Double Door Autoclave are used for culture media preparation.
- ✓ HPHV Double Door Autoclave has online printing facility including audit trails with 21 CFR compliance.
- ✓ CO₂ incubator, shaking and static incubator facility in routine testing.
- ✓ RTPCR and ELISA reader for GMO and Allergen testing.



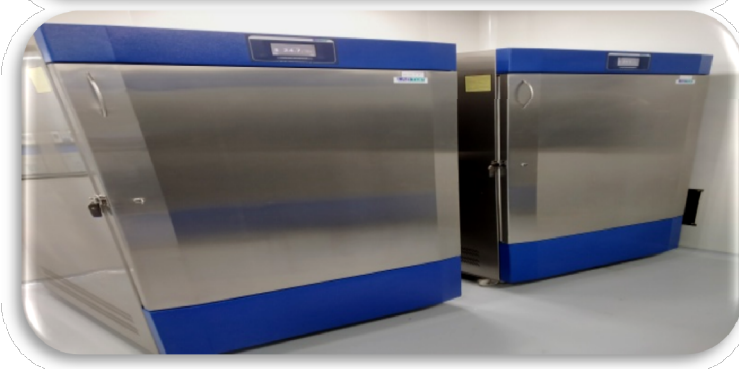


Microbiological Testing Facilities:-

- ✓ Microbial Limit Test as per national and international methods
- ✓ Pathogen testing as per national and international methods- *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Candida albicans*, *Salmonella*, *Shigella*, *Escherichia coli*, *Vibrio*, *Clostridium*, *Bacillus*, *Coliforms* and many more
- ✓ Preservative efficacy test for Personal care, Juices and Drinks
- ✓ Lactic Acid Bacillus Assay
- ✓ Germination Testing
- ✓ GMO and Food Allergen testing
- ✓ Growth Promotion Test for different types of culture media

Validation Facilities:

- ✓ Microbial Limit Test Validation as per National and International guidelines
- ✓ Method development for Lactic Acid Bacillus assay
- ✓ Water system validation and trend analysis as per customer requirements



Equipment and Instruments:

1. HPHV Double Door Autoclave with 21 CFR compliance
2. Vertical autoclave for media discarding
3. Microscope with visual camera
4. BOD incubators for different temperature with online data monitoring system.
5. Hot Air Oven
6. Horizontal and Vertical Laminar Air Flow
7. Biosafety Cabinet Class B-2
8. Digital colony counter
9. Pall India Sentino pump with Manifold Filtration Assembly with magnetic funnels
10. Dynamic Pass Boxes for material movement
11. Neuation Orbital Shaker
12. Neuation Vortex Shaker
13. RTPCR and ELISA Reader
14. CO₂ Incubator
15. Biofreezer (-40°C) and Incubators