

## Areas of Expertise/ Type of studies

Sl. No.	Area of Expertise	Type of Study	Sub-studies
A	Physical-chemical Testing (Including Five Batch Analysis)		
B	Toxicity Studies		
1		Acute Toxicity	
2		Bacterial Endotoxin Test	
3		Carcinogenicity	
4		Cytotoxicity	
5		Developmental and Reproductive Toxicity	<ul style="list-style-type: none"> <li>• One generation</li> <li>• Extended one generation</li> <li>• Two generation</li> </ul>
6		Endocrine Disruptor Assay ( <i>in vitro</i> )	<ul style="list-style-type: none"> <li>• H295R Steroidogenesis Assay</li> <li>• <i>in vitro</i> Oestrogen Receptor Binding Assay</li> <li>• <i>in vitro</i> Androgen Receptor Transactivation Assay</li> </ul>
7		Endocrine Disruptor Assay ( <i>in vivo</i> )	<ul style="list-style-type: none"> <li>• Hershberger Bioassay</li> <li>• Uterotrophic Bioassay</li> </ul>
8		Eye Irritation/ Serious Eye Damage ( <i>in vitro</i> )	
9		Eye Irritation/ Serious Eye Damage ( <i>in vivo</i> )	
10		Eye Irritation/ Serious Eye Damage ( <i>ex vivo</i> )	
11		Immunogenicity	
12		Immunotoxicity	
13		Inhalation Toxicity	
14		Neurotoxicity	<ul style="list-style-type: none"> <li>• Acute</li> <li>• Chronic</li> <li>• Delayed Developmental</li> </ul>
15		Phototoxicity ( <i>in vitro</i> )	
16		Phototoxicity ( <i>in vivo</i> )	
17		Pyrogenicity	
18		Repeated Dose Toxicity	<ul style="list-style-type: none"> <li>• Sub-acute</li> <li>• Sub-chronic</li> <li>• Chronic</li> </ul>
19		Skin Absorption ( <i>in vitro</i> )	
20		Skin Irritation/ Corrosion ( <i>in vitro</i> )	
21		Skin Irritation/ Corrosion ( <i>in vivo</i> )	
22		Skin Sensitization ( <i>in chemico</i> )	

23		Skin Sensitization ( <i>in silico</i> )	
24		Skin Sensitization ( <i>in vitro</i> )	
25		Skin Sensitization ( <i>in vivo</i> )	
26		Others	
<b>C</b>	<b>Mutagenicity Studies</b>		
1		Bacterial Reverse Mutation (AMES) Test	
2		Cell Gene Mutation Test	
3		Chromosomal Aberration Test ( <i>in vitro</i> )	
4		Chromosomal Aberration Test ( <i>in vivo</i> )	
5		Comet Assay ( <i>in vitro</i> )	
6		Comet Assay ( <i>in vivo</i> )	
7		Micronucleus Test ( <i>in vitro</i> )	
8		Micronucleus Test ( <i>in vivo</i> )	
9		Others	
<b>D</b>	<b>Environmental Toxicity Studies on Aquatic and Terrestrial Organisms</b>	Aquatic	<ul style="list-style-type: none"> <li>• Acute</li> <li>• Repeated Dose</li> <li>• Reproductive</li> </ul>
		Terrestrial	<ul style="list-style-type: none"> <li>• Acute</li> <li>• Repeated Dose</li> <li>• Reproductive</li> </ul>
<b>E</b>	<b>Studies on Behavior in Water, Soil and Air; Bioaccumulation</b>		
<b>F</b>	<b>Residue Studies</b>		
<b>G</b>	<b>Studies on Effects on Mesocosms and Natural Ecosystems</b>		
<b>H</b>	<b>Analytical and Clinical Chemistry Testing</b>		
<b>I</b>	<b>Others</b>		
1		Additional Tests for Biomedical Devices	<ul style="list-style-type: none"> <li>• Hemocompatibility</li> <li>• Implantation</li> </ul>
2		Bioanalysis	
3		Bioassays	
4		Biocompatibility Studies	
5		Bioefficacy studies on household insect pests in the laboratory as per WHOPES and other standard protocols	
6		Electrocardiography Trace Analysis and Evaluation	
7		Functional Safety Testing	

8		Histopathology Slide Evaluation and Peer Review	
9		Method Validation	
10		Minimum Inhibitory Concentration (MIC) Assay	
11		Residue Analysis	
12		Safety Pharmacology	<ul style="list-style-type: none"> <li>• Cardiovascular</li> <li>• CNS</li> <li>• Respiratory</li> </ul>
13		Statistical Analysis	
14		Toxicokinetic	
15		Toxicokinetic Data Analysis	
16		Viral Clearance Studies	
17		Others	

### Test systems

Sl. No.	Test Systems (Major)	Sub-Test Systems
1	Aquatic Organisms	<ul style="list-style-type: none"> <li>• Algae</li> <li>• Amphibians</li> <li>• Aquatic Plant</li> <li>• Blue Green Algae</li> <li>• Daphnia</li> <li>• Duckweed</li> <li>• Fish-Cold Water</li> <li>• Fish-Warm Water</li> <li>• Larvae</li> <li>• Phytoplankton</li> <li>• Water Flea</li> <li>• Zooplankton</li> </ul>
2	Terrestrial Organisms	<ul style="list-style-type: none"> <li>• Bird(s)</li> <li>• Insect(s)</li> <li>• Mites</li> <li>• Snail</li> <li>• Worms</li> </ul>
3	Biological Matrices	<ul style="list-style-type: none"> <li>• Body Organs</li> <li>• Tissues</li> <li>• Body Fluids</li> <li>• Fertile Chicken Egg</li> <li>• Hen's Egg Chorioallantoic Membrane</li> <li>• Sub-cellular fractions</li> <li>• Recombinant Enzymes</li> </ul>
4	Cell Line	<ul style="list-style-type: none"> <li>• 3D Culture</li> <li>• Primary Culture</li> <li>• Transformed Cell lines</li> <li>• Stem Cells/ iPSCs</li> </ul>
5	Plants and Seeds	
6	Soil and Water	

7	Small animals	<ul style="list-style-type: none"> <li>• Guinea Pig</li> <li>• Hamster</li> <li>• Mice</li> <li>• Rabbit</li> <li>• Rats</li> </ul>
8	Large animals	<ul style="list-style-type: none"> <li>• Dog</li> <li>• Goat</li> <li>• Mini Pig</li> <li>• Monkey</li> <li>• Swine</li> </ul>
9	Microbes	<ul style="list-style-type: none"> <li>• Bacteria</li> <li>• Fungi</li> <li>• Virus</li> </ul>