



## Microbial Screening for Enzyme Production

Offering microbial screening for enzyme production: We isolate and test microorganisms to identify strains that produce desired enzymes, optimizing their use for industrial and biotechnological applications.

**Rs 18000**

**Per 50 Plates Batch**

**+91-8977624748**

Our microbial screening service for enzyme production identifies and isolates microorganisms that produce specific enzymes. We employ advanced techniques to test and select high-yield strains, ensuring optimal enzyme production for various industrial and biotechnological applications. Whether you need enzymes for pharmaceuticals, food processing, or environmental management, our expert team provides precise, reliable results to meet your production needs efficiently and effectively.

Microbial Screening for Enzyme Production

### Important Industrial Enzymes, a Few Mentioned Below

1. Textile Industry Enzymes
2. Food and Beverage Industry Enzymes
3. Detergent Industry Enzymes
4. Paper and Pulp Industry Enzymes
5. Biofuel Industry Enzymes
6. Pharmaceutical Industry Enzymes
7. Leather Industry Enzymes
8. Agriculture Industry Enzymes

9. Waste Management Industry Enzymes
10. Cosmetic Industry Enzymes
11. Animal Feed Industry Enzymes
12. Brewing Industry Enzymes
13. Dairy Industry Enzymes
14. Baking Industry Enzymes
15. Confectionery Industry Enzymes
16. Starch Processing Industry Enzymes
17. Oil and Fat Processing Industry Enzymes
18. Wine Making Industry Enzymes
19. Juice Processing Industry Enzymes
20. Biotechnology Industry Enzymes
21. Bioremediation Industry Enzymes
22. Textile Finishing Industry Enzymes
23. Cellulosic Ethanol Industry Enzymes
24. Animal Nutrition Industry Enzymes
25. Meat Processing Industry Enzymes
26. Fish Processing Industry Enzymes
27. Seafood Processing Industry Enzymes
28. Pet Food Industry Enzymes
29. Flour Milling Industry Enzymes
30. Leather Tanning Industry Enzymes
31. Wool Processing Industry Enzymes
32. Silk Processing Industry Enzymes
33. Hemp Processing Industry Enzymes
34. Linen Processing Industry Enzymes
35. Chemical Industry Enzymes
36. Lactose-Free Dairy Industry Enzymes
37. Natural Gas Processing Industry Enzymes
38. Alcohol Production Industry Enzymes
39. Bio-based Polymer Industry Enzymes
40. Food Preservation Industry Enzymes
41. Food Flavoring Industry Enzymes
42. Food Coloring Industry Enzymes
43. Bioplastic Industry Enzymes
44. Microbial Fuel Cell Industry Enzymes
45. Perfume Industry Enzymes
46. Adhesive Industry Enzymes
47. Rubber Processing Industry Enzymes
48. Paint and Coating Industry Enzymes
49. Textile Dyeing Industry Enzymes
50. Enzyme-Based Cleaning Products Industry

## **Enzymes and their sources**

NTHRYS OPC PVT LTD Microbial Screening for Enzyme Production

<b>Industry</b>	<b>Enzyme</b>	<b>Function</b>	<b>Microorganisms</b>
Dairy	Acid proteinase	Milk coagulation	<i>Aspergillus</i> sp.
	Neutral proteinase	Faster cheese ripening, debittering	<i>Bacillus subtilis</i> , <i>A. oryzae</i>
	Lipase	Faster cheese ripening, flavor customized cheese,	<i>Aspergillus niger</i> , <i>A. oryzae</i>
	Lactase ( $\beta$ -galactosidase)	Lactose reduced milk and whey products	<i>Escherichia coli</i> , <i>Kluyveromyces</i> sp.
	Aminopeptidase	Faster cheese ripening	<i>Lactobacillus</i> sp.
	catalase	Cheese processing	<i>Aspergillus niger</i>
	Transglutaminase	Protein cross linking	<i>Streptomyces</i> sp.
Baking	Amylase	Flour adjustment, bread softness	<i>Aspergillus</i> sp., <i>Bacillus</i> sp.
	Maltogenic $\alpha$ -Amylase	Enhance shelf life of breads	<i>Bacillus stearothermophilus</i>
	Xylanase	Dough conditioning	<i>Aspergillus niger</i>
	Lipase	Dough stability and conditioning	<i>Aspergillus niger</i>
	Glucose oxidase	Dough strengthening	<i>Aspergillus niger</i> , <i>Penicillium chrysogenum</i>
	Transglutaminase	Laminated dough strength	<i>Streptoverticillium</i> sp., <i>streptomyces</i> sp.
	Pectinase	Depectinization	<i>Aspergillus oryzae</i> , <i>Penicillium funiculosum</i>
Beverage	Glucose oxidase	Oxygen removal from beer	<i>Aspergillus niger</i>
	Cellulase	Fruit liquefaction	<i>Aspergillus niger</i> , <i>Trichoderma atroviride</i>
	$\alpha$ -Amylase	Starch hydrolysis	<i>Bacillus</i> , <i>Aspergillus</i>
	$\beta$ -Amylase	Starch hydrolysis	<i>Bacillus</i> , <i>Streptomyces</i> , <i>Rhizopus</i>
	$\beta$ -Glucanase	Restrict haze formation	<i>Bacillus subtilis</i> , <i>Aspergillus</i> spp.
	protease	Restrict haze formation	<i>Aspergillus niger</i>
	Pullulanase	Starch saccharification	<i>Bacillus</i> sp., <i>Klebsiella</i> sp.
	Naringinase	Debitting	<i>Aspergillus niger</i>
	limoninase	Debitting	<i>Aspergillus niger</i> , <i>A. oryzae</i>
Aminopeptidases	Protein breakdown during mashing	<i>Lactobacillus brevis</i> , <i>L. plantarum</i>	

<b>Industry</b>	<b>Enzyme</b>	<b>Function</b>	<b>Microorganisms</b>
Animal feed	Phytase	Hydrolyze phytic acid to release phosphorous	<i>Aspergillus niger</i>
	Xylanase	Enhanced digestibility of starch	<i>Aspergillus</i> sp., <i>Bacillus</i> sp.
	$\beta$ -glucanase	Digestive aid	<i>Aspergillus niger</i>
	Lipase	Pitch control	<i>Candida Antarctica</i>
	Protease	Biofilm removal	<i>Bacillus subtilis</i>
	Amylase	Deinking, drainage improvement	<i>Bacillus licheniformis</i>
Pulp and paper	Xylanase	Bleach boosting	<i>Trichoderma reesei</i> , <i>Thermomyces lanuginosus</i> , <i>Aureobasidium pullulans</i>
	Laccase	Non-chlorine bleaching, delignification	<i>Bacillus subtilis</i>
	Cellulase	Deinking, drainage improvement	<i>Bacillus</i> sp., <i>Aspergillus niger</i>
	Lipase	Polycondensation, ring-opening polymerization of lactones, carbonates	<i>Candida Antarctica</i>
Polymer	Laccase	Polymerization of bisphenol A	<i>Trametes hirsuta</i>
	Glucose oxidase	Polymerization of anilines	<i>Aspergillus niger</i> , <i>Penicillium chrysogenum</i>
	Transglutaminase	Crosslinking of protein	<i>Streptomyces mobaraensis</i>
	Tyrosinase	Polymerization of lignin and chitosan	<i>Trichoderma reesei</i>
	Amylase	Carbohydrate stain removal	<i>Aspergillus</i> sp., <i>Bacillus subtilis</i>
Detergent	Lipase	Fat stain elimination	<i>Aspergillus oryzae</i> , <i>A. flavus</i> ,
	Protease	Protein stain removal	<i>Aspergillus oryzae</i> , <i>Bacillus subtilis</i>
	Cellulase	Color clarification	<i>Aspergillus niger</i> , <i>Bacillus</i> sp.
	Cutinase	Triglyceride removal	<i>Fusarium solani f. pisi</i>
	Mannanase	Mannan spot removal	<i>Bacillus</i> sp.
	Alkaline protease	Dehairing, bating	<i>Alcaligenes faecalis</i>
	Neutral Protease	Dehairing, soaking	<i>Aspergillus niger</i> , <i>A. flavus</i> , <i>Bacillus subtilis</i>
Leather	Lipase	Degreasing	<i>Aspergillus oryzae</i> , <i>A. flavus</i> ,
	Amylase	Fiber splitting	<i>Aspergillus</i> sp., <i>Bacillus subtilis</i>

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<b>Industry</b>	<b>Enzyme</b>	<b>Function</b>	<b>Microorganisms</b>
Cosmetics	Superoxide dismutase	Free radical scavenging, skin care	<i>Corynebacterium Glutamicum, Lactobacillus plantarum</i>
	Protease	Removal of dead skin	<i>Aspergillus niger, A. flavus, Bacillus subtilis</i>
	Endoglycosidase	Teeth and gum tissue care	<i>Mucor hiemalis</i>
	laccase	Hair dye	<i>Bacillus subtilis, Trametes versicolor</i>
	lipase	Skin care	<i>Aspergillus oryzae, A. flavus</i>
	Lipase	Synthesis of pharmaceuticals, polymers, biodiesels, biosurfactants	<i>Aspergillus oryzae, A. flavus</i>
Organic synthesis	Glycosyl tranferase	Synthesis of oligosaccharides	<i>Bacillus sp.</i>
	Nitrile hydratase	Synthesis of acrylamide, butyramide, nicotinamide	<i>Rhodococcus rhodochrous PA-34, Bacillus sp. APB-6</i>
	Glucose isomerase	Production of High fructose corn syrup	<i>Corynebacterium sp., streptomyces murinus</i>
	Acyltransferase	Synthesis of hydroxamic acids	<i>Bacillus sp. APB-6</i>
	Laccase	Production of textile dyes, cosmetic pigments, flavor agents, and pesticides	<i>Trametes versicolor, Bacillus subtilis</i>

<b>Industry</b>	<b>Enzyme</b>	<b>Function</b>	<b>Microorganisms</b>
Waste management	Amidase	Degradation of nitriles containing wastes	<i>Rhodococcus erythropolis</i>
	Amylase	Bioremediation of vegetables wastes	<i>B. licheniformis, Aspergillus sp.</i>
	Amyloglucosidase	Starch hydrolysis for bioremediation	<i>Aspergillus niger</i>
	Lipase	Degradation of crude oil hydrocarbons	<i>Aspergillus oryzae, Candida tropicalis</i>
	Nitrile hydratase	Degradation of nitriles containing wastes	<i>Rhodococcus sp.</i>
	Protease	Bioremediation of keratinic wastes	<i>Chrysosporium keratinophilum</i>
	Laccase	Degradation of waste containing olefin unit, polyurethane and phenolic compounds	<i>Trametes versicolor</i>
	Cutinase	Degradation of plastics, Polycaprolactone	<i>Fusarium solani f. pisi</i>
	Manganese peroxidase	Degradation of phenolic compounds	<i>Phanerochaete chrysosporium, Coprinus cinereus</i>
	Lignin peroxidase	Degradation of phenolic compounds	<i>Phanerochaete chrysosporium, Coprinus cinereus</i>
Oxygenase	Degradation of halogenated contaminants	<i>Pseudomonas sp., Rhodococcus sp.</i>	

### Therapeutic Enzymes

<b>Treatment</b>	<b>Enzymes</b>	<b>Microorganisms</b>
Antitumor	l-Asparaginase, l-glutaminase, l-tyrosinase, galactosidase	<i>Escherichia coli, Pseudomonas acidovorans, Beauveria bassiana, Acinetobacter</i>
Antiinflammatory	Superoxide dismutase, Serrapeptase	<i>Lactobacillus plantarum, Nocardia sp., Mycobacterium sp., Corynebacterium Glutamicum,</i>
Anticoagulants	Streptokinase, urokinase	<i>Streptococci sp., Bacillus subtilis</i>
Antibiotic synthesis	Penicillin oxidase, rifamycin B oxidase	<i>Penicillium sp.</i>
Antioxidants	Superoxide dismutases, glutathione peroxidases, catalase	<i>Lactobacillus plantarum, Corynebacterium glutamicum</i>

<b>Treatment</b>	<b>Enzymes</b>	<b>Microorganisms</b>
Skin ulcers	Collagenase	<i>Clostridium perfringens</i>
Detoxification	Laccase, rhodanese	<i>Pseudomonas aeruginosa</i>
Antibiotic resistance	$\beta$ -Lactamase	<i>Klebsiella pneumonia</i> , <i>Citrobacter freundii</i> , <i>Serratia marcescens</i>
Antiviral	Ribonuclease, Serrapeptase	<i>Saccharomyces cerevisiae</i>
Gout	Uricase	<i>Aspergillus flavus</i>
Digestive disorders	$\alpha$ -Amylase, lipase	<i>Bacillus spp.</i> , <i>Candida lipolytica</i> , <i>A. oryzae</i>
Cyanide poisoning	Rhodanase	<i>Sulfobacillus sibiricus</i>

### **Textile Industry Enzymes**

<b>Enzyme</b>	<b>Use</b>	<b>Microorganisms</b>
Amylase	Desizing	<i>Bacillus sp.</i> , <i>B. licheniformis</i>
Cellulose	Cotton softening, denim finishing	<i>Aspergillus niger</i> , <i>Penicillium funiculosum</i>
Catalase	Bleach termination	<i>Aspergillus sp.</i>
Laccase	Non-chlorine Bleaching, fabric dyeing	<i>Bacillus subtilis</i>
Pectate lyase	Bioscouring	<i>Bacillus sp.</i> , <i>Pseudomonas sp.</i>
Amylase	Desizing	<i>Bacillus sp.</i> , <i>B. licheniformis</i>
Cellulose	Cotton softening, denim finishing	<i>Aspergillus niger</i> , <i>Penicillium funiculosum</i>
Protease	Removal of wool fiber scales, degumming of silk	<i>Aspergillus niger</i> , <i>B. subtilis</i>
Lipase	Removal of size lubricants, denim finishing,	<i>Candida Antarctica</i>
Ligninase	Wool finishing	<i>Trametes versicolor</i> , <i>Phlebia radiata</i>
Collagenase	Wool finishing	<i>Clostridium histolyticum</i>
Cutinase	Cotton scouring, synthetic fiber modification	<i>Pseudomonas mendocina</i> , <i>Fusarium solani pisi</i> , <i>Thermomonospora fusca</i>

### **Contact us for more info**