

HUMAN HEALTH BIOTECHNOLOGY • PREBIOTIC & POSTBIOTIC SKILL DEVELOPMENT



NTHRYS
OPC PVT LTD



Prebiotics & Postbiotics Industrial Manufacturing Training Programs

A complete industrial catalogue of hands-on prebiotic & postbiotic training modules — from FOS, GOS & inulin to HMOs & postbiotic ingredients.

55

PROGRAMS

10

CATEGORIES

2026

EDITION

Program Categories at a Glance

This catalogue lists every prebiotic and postbiotic our training programs are equipped to manufacture and teach, organised into 10 technology streams. Each program carries a unique product code for easy reference, enrolment and certification.

STREAM	CATEGORY FOCUS	DESCRIPTION	COUNT
NPB-FR	Fructan Prebiotics (FOS & Inulin)	Short-chain FOS, inulin & oligofructose production	6
NPB-GO	Galacto- & Other Oligosaccharide Prebiotics	GOS, XOS & IMO oligosaccharide production	6
NPB-HM	Human Milk Oligosaccharides (HMOs)	2'-FL, LNnT & sialyllactose production	5
NPB-RS	Resistant Starch & Fibre Prebiotics	Resistant starch, dextrin & beta-glucan fibre	5
NPB-SP	Specialty & Emerging Prebiotics	Lactulose, MOS & polyphenol prebiotics	5
NPB-PO	Postbiotics & Paraprobiotics	Heat-killed cells, lysates & fermentate postbiotics	6
NPB-PR	Production & Enzymatic Synthesis Technology	Transglycosylation, fermentation & hydrolysis	6
NPB-DS	Purification, Concentration & Drying	Chromatography, membrane separation & drying	6
NPB-FT	Synbiotic & Application Formulation	Synbiotic, infant-formula & beverage formats	5
NPB-QC	Standardisation, Quality & Compliance	Oligosaccharide HPLC, DP analysis & activity QC	5
Total training programs			55

HOW TO READ A CODE

NPB – FR – 01

NPB Nthrys Prebiotic-Postbiotic Program **FR** Category stream **01** Program number

01

CATEGORY • NPB-FR

Fructan Prebiotics (FOS & Inulin)

Short-chain FOS, inulin & oligofructose production

6

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-FR-01	Short-Chain FOS (scFOS)	Enzyme-synthesised FOS.
NPB-FR-02	Inulin (Chicory)	Native chicory inulin.
NPB-FR-03	Long-Chain Inulin (HP)	High-performance inulin.
NPB-FR-04	Oligofructose	Inulin-derived oligofructose.
NPB-FR-05	Agave / Plant Inulin	Alternative-source inulin.
NPB-FR-06	Inulin-FOS Syrup	Liquid prebiotic syrup.

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-GO-01	Galactooligosaccharides (GOS)	Beta-galactosidase GOS.
NPB-GO-02	Xylooligosaccharides (XOS)	Xylanase-derived XOS.
NPB-GO-03	Isomaltooligosaccharides (IMO)	Transglucosidase IMO.
NPB-GO-04	Gentiooligosaccharides	Specialty oligosaccharide.
NPB-GO-05	Lactosucrose	Lactose-sucrose oligosaccharide.
NPB-GO-06	Pectin Oligosaccharides (POS)	Pectin-derived oligosaccharide.

03

CATEGORY • NPB-HM

Human Milk Oligosaccharides (HMOs)

2'-FL, LNnT & sialyllactose production

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-HM-01	2'-Fucosyllactose (2'-FL)	Major HMO (fermentation).
NPB-HM-02	Lacto-N-neotetraose (LNnT)	Core HMO.
NPB-HM-03	3-Fucosyllactose (3-FL)	Fucosylated HMO.
NPB-HM-04	Sialyllactose (3'-SL / 6'-SL)	Sialylated HMO.
NPB-HM-05	HMO Blend (Infant Formula)	Multi-HMO blend.

04

CATEGORY • NPB-RS

Resistant Starch & Fibre Prebiotics

Resistant starch, dextrin & beta-glucan fibre

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-RS-01	Resistant Starch (RS2 / RS3)	Slow-digesting starch.
NPB-RS-02	Resistant Dextrin	Soluble fibre dextrin.
NPB-RS-03	Arabinoxylan	Cereal-fibre prebiotic.
NPB-RS-04	Beta-Glucan (Oat / Barley)	Soluble-fibre glucan.
NPB-RS-05	Polydextrose	Synthetic soluble fibre.

05

CATEGORY • NPB-SP

Specialty & Emerging Prebiotics

Lactulose, MOS & polyphenol prebiotics

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-SP-01	Lactulose	Synthetic disaccharide prebiotic.
NPB-SP-02	Mannan-Oligosaccharides (MOS)	Yeast-derived MOS.
NPB-SP-03	Chitooligosaccharides (COS)	Chitin-derived oligosaccharide.
NPB-SP-04	Polyphenol Prebiotic Extract	Microbiome-active polyphenols.
NPB-SP-05	Algal / Seaweed Prebiotic	Marine-fibre prebiotic.

06

CATEGORY • NPB-PO

Postbiotics & Paraprobiotics

Heat-killed cells, lysates & fermentate postbiotics

6

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-PO-01	Heat-Killed (Tyndallised) Probiotic	Inactivated-cell postbiotic.
NPB-PO-02	Bacterial Lysate	Cell-lysate postbiotic.
NPB-PO-03	Cell-Free Fermentate / Supernatant	Metabolite-rich fermentate.
NPB-PO-04	Exopolysaccharide Postbiotic	Secreted-EPS postbiotic.
NPB-PO-05	Cell-Wall Fragment (Peptidoglycan)	Cell-wall postbiotic.
NPB-PO-06	Short-Chain Fatty-Acid Postbiotic	SCFA-enriched postbiotic.

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-PR-01	Enzymatic Transglycosylation	Enzyme oligosaccharide synthesis.
NPB-PR-02	Microbial Fermentation Synthesis	Engineered-strain HMO production.
NPB-PR-03	Plant Extraction (Inulin)	Chicory-extraction process.
NPB-PR-04	Enzymatic Hydrolysis (XOS / POS)	Fibre-hydrolysis process.
NPB-PR-05	Strain & Enzyme Selection	Biocatalyst selection.
NPB-PR-06	Bioreactor Scale-Up	Industrial production scale-up.

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-DS-01	Decolourisation & Clarification	Colour & impurity removal.
NPB-DS-02	Chromatographic Purification	Oligosaccharide fractionation.
NPB-DS-03	Membrane / Nanofiltration	Membrane separation.
NPB-DS-04	Concentration & Evaporation	Syrup concentration.
NPB-DS-05	Spray / Freeze Drying	Powder production.
NPB-DS-06	Crystallisation & Finishing	Crystalline product finishing.

09

CATEGORY • NPB-FT

Synbiotic & Application Formulation

Synbiotic, infant-formula & beverage formats

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-FT-01	Synbiotic Formulation	Pre + probiotic product.
NPB-FT-02	Capsule / Sachet Formulation	Solid-dose formats.
NPB-FT-03	Functional-Food / Beverage Blend	Food & drink fortification.
NPB-FT-04	Infant-Formula Ingredient	Infant-nutrition grade.
NPB-FT-05	Liquid / Syrup Formulation	Liquid-application formats.

10

CATEGORY • NPB-QC

Standardisation, Quality & Compliance

Oligosaccharide HPLC, DP analysis & activity QC

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PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NPB-QC-01	Oligosaccharide Profile (HPLC)	Composition quantification.
NPB-QC-02	Degree-of-Polymerisation Analysis	Chain-length analysis.
NPB-QC-03	Prebiotic-Activity Assay	Fermentability testing.
NPB-QC-04	Purity & Contaminant Testing	Safety & purity QC.
NPB-QC-05	Regulatory & Health-Claim Compliance	Labelling compliance.

ENROL • SYNTHESISE • REFINE

Build a Career in Prebiotic Manufacturing

Every program in this catalogue is delivered as hands-on training on working synthesis and purification equipment — covering enzymatic & fermentation synthesis, plant extraction, hydrolysis, purification & chromatography, drying, synbiotic formulation, oligosaccharide assay & QC and regulatory compliance. Mix and match programs to design a track that fits your goals.

55 training programs

10 technology streams

Unique **product code** for every module

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