invivo®

DIAGNOSTIC PRODUCT GUIDE

invivo® | phylobioscience™

TRANSLATING HOST-MICROBIOME RESEARCH INTO PRECISION MEDICINE

Phylo Bioscience™ is a microbiome and biotech laboratory based out of Bristol in the UK. We specialise in multiple microbiome diagnostics for the assessment of the gastrointestinal, vaginal and oral ecosystems.

We have established an incredible team of microbiologists, alongside a global scientific advisory board. They have helped craft the science, the target markers and the clinical utility of the profiles.

In September 2019, Phylo achieved CQC registration to provide diagnostic and screening services and we are aiming for B Corp status this year.

HUMPHREY BACCHUS
MD | Invivo Healthcare
Founder | Phylo Bioscience

Certified B Corporation

CareQuality Commission

PHYLO BIOSCIENCE™ LEADERSHIP TEAM

DR JASPAL PATIL, PhD

Laboratory Director

Dr Jaspal Patil is a Molecular Biologist and Pharmacist. He completed his PhD in Neuroscience from University of Bern, Switzerland. At the University of Gothenburg, Sweden his postdoctoral research was mainly focused on the role of systemic LPS on the endogenous antioxidant system (Nrf2 system) in the brain and the effect of a spirulina enriched diet on neuroinflammation.

Jaspal's research interest in the molecular mechanisms involved in the human microbiome and disease-modifying therapies such as phytochemical-rich diets led him to join Phylo Bioscience™ as Laboratory Director in 2018.

MANUELA CASTRO, MPhil

Laboratory Manager

Manuela Castro is an Industrial Microbiologist with an MPhil in Molecular Microbiology from Newcastle University. She has six years' research experience within the Centre for Bacterial Cell Biology (CBCB) where she developed herself as a scientist in conjunction with laboratory management skills.

PHYLO BIOSCIENCE™ SCIENTIFIC ADVISORY BOARD

DR DAVID MOYES, PhD
Lecturer in Host-Microbiome Interactions at The Moyes Lab, Kings College London

DR TIM MAK, PhD
Medical Microbiologist
Specialist in human gut microbiota and epigenomics

DR JAVIER OCHOA-REPARAZ, PhD
Assistant Professor, Eastern Washington University | Host-Microbiome Gut Interactions & Immunomodulation

INVIVO HEALTHCARE CLINICAL ADVISORY

DR GEORGE TZORTZIS, PhD
17 years experience in leadership roles in the biotech industry in the microbiome and health space. PhD in gut microbiology and glycobiology.

DR ANDREA MONTEAGUADO, PhD
Postdoctoral research associate at the University of Reading researching prebiotic modulation of the gut microbiome.

LEAH HECHTMAN, ND, MSciMed, PhD (Candidate)
Specialist clinician in fertility, pregnancy and reproductive health. PhD candidate at the University of New South Wales.

MORIA BRADFIELD, M ACU, B NAT, PhD (Candidate)
Specialist clinician in female genitourinary and vaginal health and the vaginal microbiome. PhD candidate at Griffith University.

METHODOLOGY

We use quantitative realtime polymerase chain reaction (qRT-PCR), using TaqMan technology, to analyse the bacterial, viral and fungal communities in conjunction with key host markers, measured using enzyme linked immunosorbent assay (ELISA).

QUALITY & ACCURACY

A two-step accuracy and quality process underlies the Phylo Bioscience™ methodology.

Standardisation

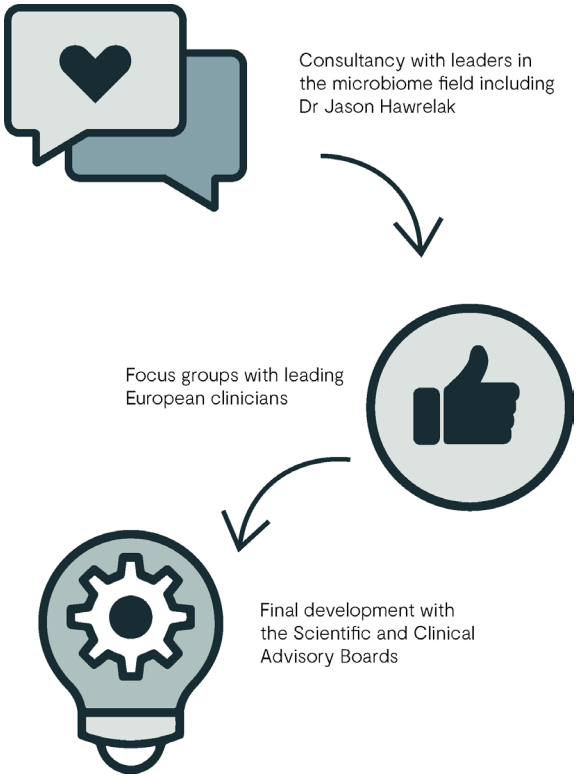
We use a fixed amount of sample DNA (ng) for analysis. This improves the accuracy by removing variables that alter the weight of the given sample, which may result in significant differences in extractable DNA.

Normalisation

We use an endogenous control – a conserved portion of DNA for all microorganisms – to measure the baseline microbial load of your sample. This enables us to report acurately on how high or low the expression of the target markers are in comparison to your total microbial load – their relative abundance.

Clinically, this gives you the ability to confidently compare samples before and after treatment. It also removes the reliance on externally-derived reference ranges of a 'healthy' microbiome to compare to.

OUR DESIGN PROCESS



GI EcologiX™

A comprehensive clinical tool for the assessment of the gastrointestinal microbiome – a key ecosystem for health optimisation and a trigger for chronic inflammation

ABOUT

Billions of microorganisms colonise the gastrointestinal tract, which extends from the stomach to the rectum. The presence and activity of these microorganisms is fundamental for physiologic homeostasis. They play a key role in the development of the immune system, digestion of fibres, production of energy metabolites, vitamins and neurotransmitters and in the defence against pathogen colonisation. The disruption of these microbial communities – dysbiosis – has been associated with several diseases including metabolic syndrome, systemic inflammation, autoimmune and mental health conditions.

SUMMARY

1 sample / 2 swabs
Quantitative real-time PCR (qRT-PCR)
Enzyme-linked immunosorbent assay (ELISA)
5 x GI health markers (β-defensin 2, calprotectin, elastase, SIgA, zonulin)
63 x target bacterial, fungal and parasite markers
SCFA producing bacteria (butyrate, propionate and acetate)
SIBO related bacteria (sulfidogenic and methanogenic bacteria)
H. pylori + stool antigen

PRICE

£339.00 RRP
£289.00 Clinician

*Prices subject to change

TEST INDICATIONS

+ IBS/IBD
+ Autoimmune conditions
+ Neurodegeneration and Neurodevelopmental conditions
+ Depression
+ Chronic fatigue/fibromyalgia
+ SIBO
+ Chronic disease

WORKS WELL WITH

+ Oral EcologiX™ as a source of GI microorganisms

ONLINE RESOURCES

+ Sample report
+ Disease matrix
+ Interpretive guide
+ Clinical considerations
+ Phyla guide
+ Support calls for healthcare professionals

MARKERS

GI HEALTH MARKERS

β-defensin 2
Calprotectin
Elastase
Secretory IgA
Zonulin

COMMENSAL BACTERIA SPP. (+/-)

Akkermansia muciniphila
Anaerostipes caccae
Bacteroides spp.
Bifidobacterium spp.
Escherichia coli
Eubacterium rectale
Faecalibacterium prausnitzii
Lactobacillus spp.
Roseburia homini
Ruminococcus bromii
Subdoligranulum variabile

BACTERIOIDES SUB GROUP

Bacteroides dorei
Bacteroides fragilis
Bacteroides fragilis (Enterotoxigenic)
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus

CLOSTRIDIUM SUB GROUP

Clostridium difficile
Clostridium difficile (tox A)
Clostridium difficile (tox B)
Clostridium perfringens
Clostridium sporenges

GRAM NEGATIVE (-) BACTERIA

Biophila wadsorthia
Citrobacter freundii
Citrobacter koseri
Citrobacter spp.
Desulfovibrio
Enterobacter aerogenes
Enterobacter cloacae
Fusobacterium nucleatum
Hafnia alvei
Klebsiella oxytoca
Klebsiella pneumoniae
Morganella morganii
Oxalobacter formigenes
Prevotella spp.
Proteus mirabilis
Pseudomonas aeruginosa
Serratia marcescens
Veillonella spp.
Yersinia enterocolitica

GRAM POSITIVE (+) BACTERIA

Enterococcus faecalis
Enterococcus faecium
Enterococcus gallinarum
Methanobrevibacter smithii
Mycobacterium avium
Ruminococcus gnavus
Ruminococcus torques
Staphylococcus aureus
Streptococcus agalactiae
Streptococcus pneumoniae
Streptococcus pyogenes

HELIOBACTER PYLORI

Heliobacter Pylori
H. Pylori stool antigen (as confirmatory reflex)

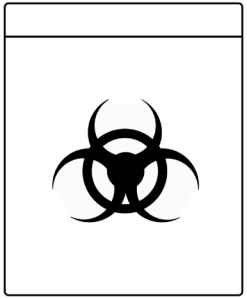
MYCOLOGY

Aspergillus fumigatus
Candida albicans
Candida krusei
Candida tropicalis
Malassezia restricta

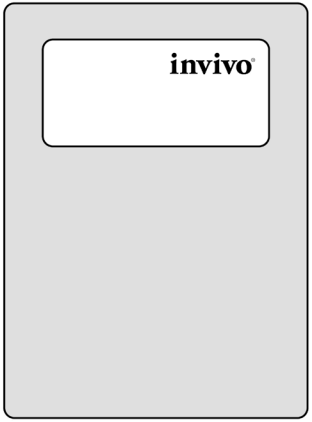
PARASITOLOGY

Blastocystis hominis
Dientamoeba fragilis
Entamoeba histolytica
Giardia

WHAT'S IN THE KIT?

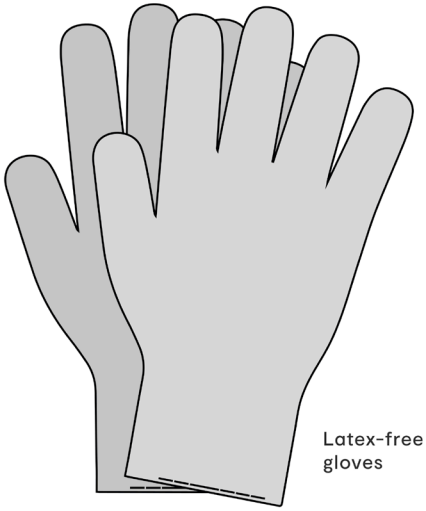


Biohazard bag



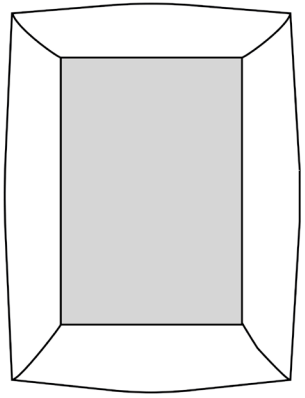
Return mailing bag

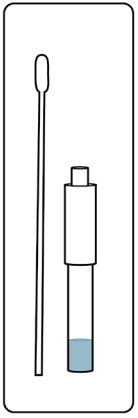
Absorbent white sheet



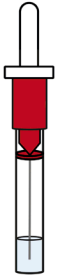
Latex-free gloves

Faecal collection device





eNAT collection swab



ScheBo® collection swab

Faecal collection device

Female EcologiX™

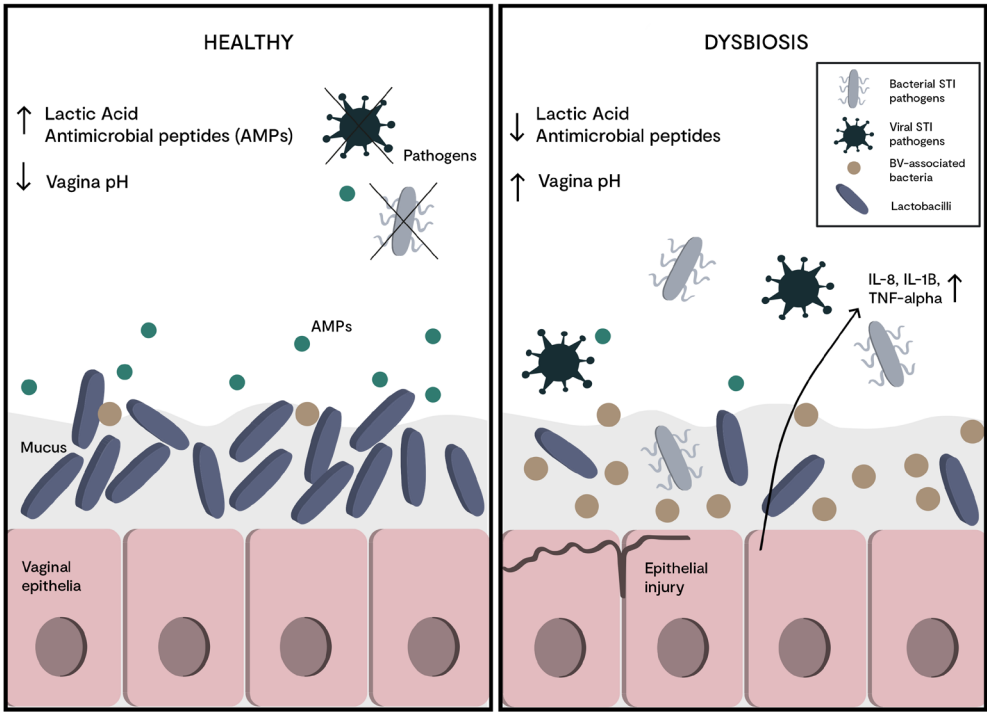
A ground-breaking clinical tool for the assessment of the vaginal microbiome – a key ecosystem for female health and reproductive optimisation

ABOUT

The vaginal tract is host to over 200 species of microorganisms. It is a dynamic and complex ecosystem comprising fluctuating populations that modulate host immune responses and maintain homeostasis.

Disruption of microbiota composition and functions – dysbiosis – has been linked to a multitude of disorders, including bacterial vaginosis, candidiasis (thrush), infertility, pre-term births, miscarriages and increased risk of STIs.

THE VAGINAL ECOSYSTEM



SUMMARY

1 collection / 2 swabs + pH strip
Quantitative real-time PCR (qRT-PCR)
Enzyme-linked immunosorbent assay (ELISA)
22 x target bacterial, fungal and viral markers
2 x vaginal health markers (IL-1β & pH)
Community State Type Lactobacilli
Mycology associated with candidiasis (thrush)
Bacteria associated with bacterial vaginosis, aerobic vaginitis, urinary tract infections
Bacteria associated with fertility and pregnancy complications
5 x sexually transmitted infections (add-on)

PRICE

Female EcologiX™
£179.00 RRP
£149.00 Clinician

Female EcologiX™ + STI
£229.00 RRP
£189.00 Clinician

*Prices subject to change

BIOMARKERS

HEALTH MARKERS
IL-1β
pH

LACTOBACILLI
Lactobacillus crispatus
Lactobacillus iners
Lactobacillus jensinii
Lactobacillus gasseri

COMMENSAL BACTERIA
Gardnerella vaginalis
Mobiluncus mulieris
Mobiluncus curtisii
Atopobium vaginae
BVAB2
Prevotella bivia
Ureaplasma urealyticum
Megasphera 1
Megasphera 2

PATHOBIONTS
Escherichia coli
Enterococcus faecalis
Streptococcus agalactiae
Staphylococcus aureus

OPPORTUNISTIC FUNGI
Candida albicans
Candida parapsilosis
Candida tropicalis
Candida krusei
Candida glabrata

SEXUALLY TRANSMITTED INFECTIONS (ADD-ON)
Herpes simplex virus 1
Herpes simplex virus 2
Mycoplasma gentitalium
Trichomonas vaginalis
Chlamydia trachomatis
Megasphera 2

TEST INDICATIONS

+ Female health optimisation
+ Vaginal bacterial, fungal and viral infections
+ Endometriosis
+ Conception care
+ Fertility & IVF
+ Chronic pelvic pain

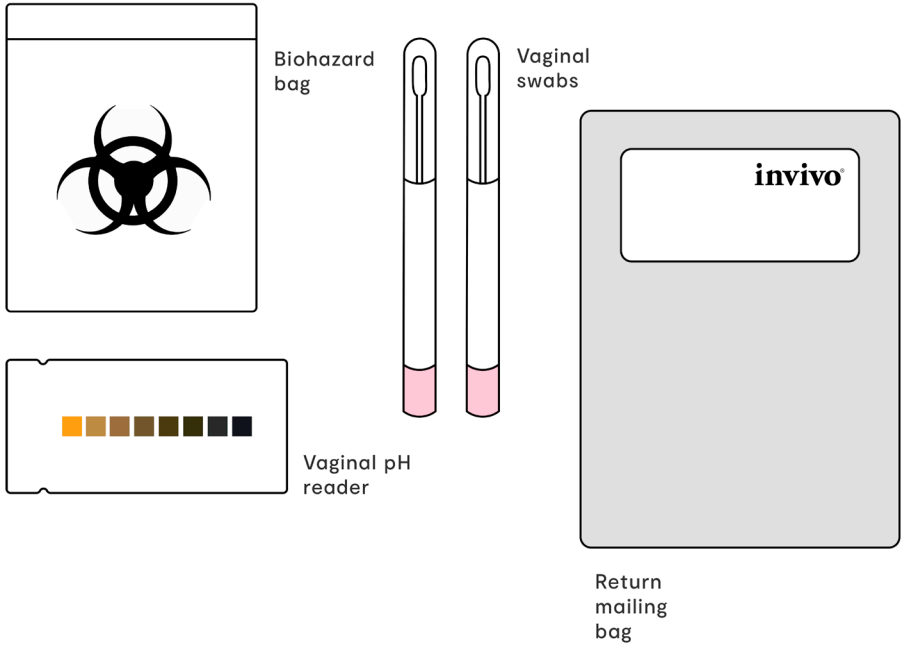
WORKS WELL WITH

+ Oral EcologiX™ for pregnancy optimisation
+ Hormone testing

ONLINE RESOURCES

+ Sample report
+ Disease matrix
+ Interpretive guide
+ Clinical considerations
+ Support calls for healthcare professionals
+ The Female Ecology Mastercourse (online education course)

WHAT'S IN THE KIT?



Oral EcologiX™

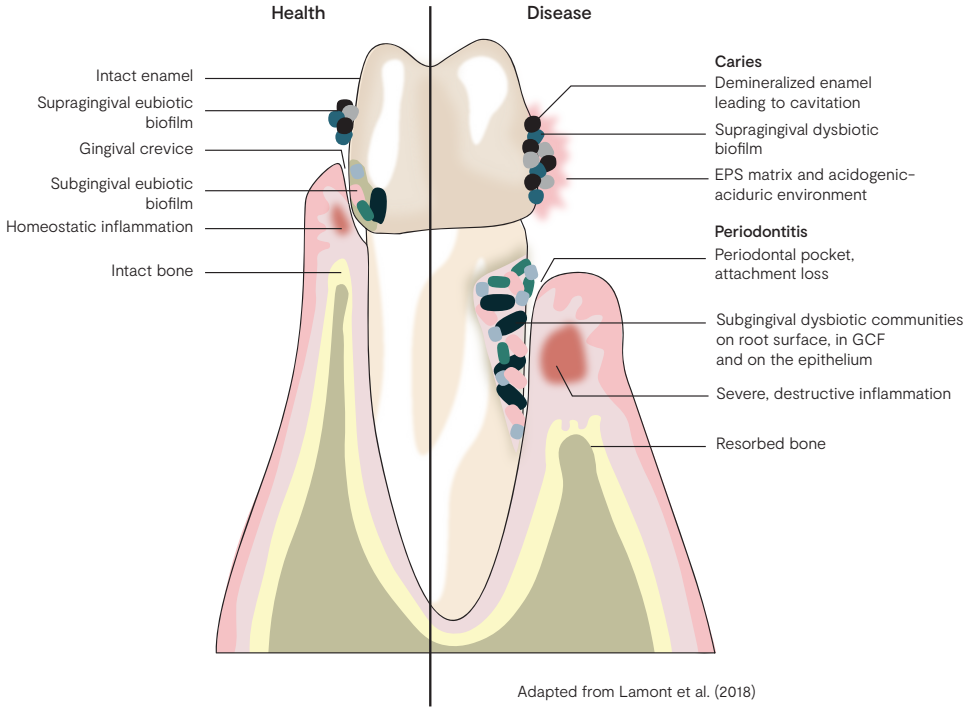
A ground-breaking clinical tool for the assessment of the oral microbiome – a key ecosystem in the gut-brain connection, and for cardiovascular and female reproductive health.

ABOUT

The oral cavity is a complex ecosystem comprising several habitats, including the teeth, gums, tongue, and tonsils, all colonised by approximately 600 species. The microbiota exists as a complex biofilm that remains stable, despite environmental changes. However, dysbiosis, in form of infection, injury, dietary changes and risk-associated factors (e.g. smoking) may disrupt the biofilm community, favouring colonisation and invasion of pathogens.

Disruption of the biofilm community to a pathogenic profile induces host immune responses, chronic inflammation and ultimately, the development of local and systemic disease. However, much of this damage is reversible if pathogenic communities are reduced and homeostasis is restored.

THE ORAL ECOSYSTEM



Adapted from Lamont et al. (2018)

SUMMARY

1 saliva collection
Quantitative real-time PCR (qRT-PCR)
15 x target bacterial and fungal markers
Commensal orange complex & bridge species bacteria
Red complex pathogens
Fungi

PRICE

£129.00 RRP
£99.00 Clinician

*Prices subject to change

BIOMARKERS

COMMENSAL BACTERIA (ORANGE COMPLEX & BRIDGE SPECIES)	CLASSIFICATION
Campylobacter rectus	Gram-negative
Eubacterium nodatum	Gram-positive
Fusobacterium nucleatum	Gram-negative
Lactobacillus spp.	Gram-positive
Parvimonas micra	Gram-positive
Peptostreptococcus anaerobius	Gram-positive
Prevotella intermedia	Gram-negative
Prevotella nigrescens	Gram-negative
Streptococcus mutans	Gram-positive
Veillonella spp.	Gram-negative

PATHOGENS (RED COMPLEX)	CLASSIFICATION
Aggregatibacter actinomycetemcomitans	Gram-negative
Porphyromonas gingivalis	Gram-positive
Tannerella forsythia	Gram-negative
Treponema denticola	Gram-negative

FUNGI
Candida albicans

TEST INDICATIONS

+ Oral health optimisation
+ Periodontitis/caries
+ Neurodegenerative disorders
+ Cardiovascular disease
+ Pregnancy optimisation
+ Oral candidiasis
+ Oral cancer

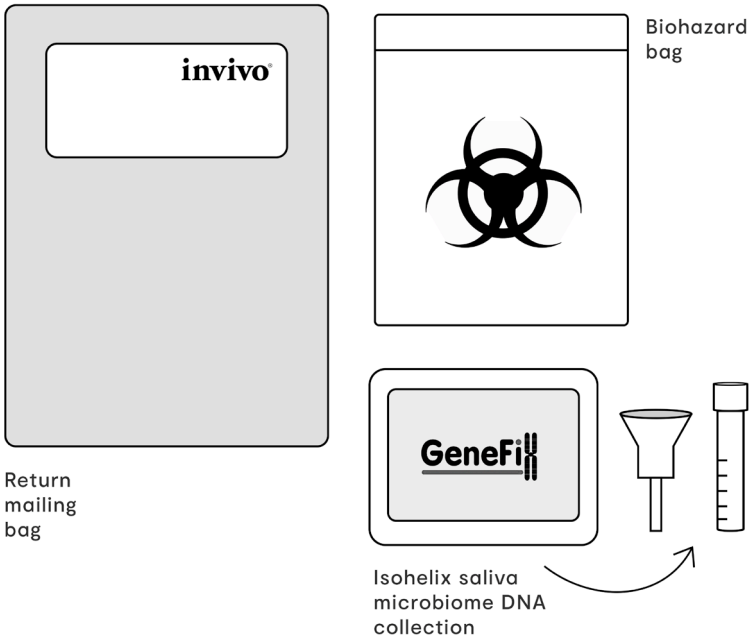
WORKS WELL WITH

+ Female EcologiX™ for pregancy optimisation
+ GI EcologiX™ for a comprehensive oral-gut assessment

ONLINE RESOURCES

+ Sample report
+ Disease matrix
+ Interpretive guide
+ Clinical considerations
+ Support calls for healthcare professionals

WHAT'S IN THE KIT?



If you have any questions about any Phylo Bioscience™ microbiome profiles, please get in touch. Our in-house clinical education team are here to answer any questions.

E: SUPPORT@INVIVOHEALTHCARE.COM

HOW TO ORDER

EcologiX™ profiles are for healthcare professionals only.

Please register for a professional account with us via our website.

You will be able to order the EcologiX™ profiles at clinician prices online.

VISIT: INVIVOHEALTHCARE.COM
EMAIL: INFO@INVIVOHEALTHCARE.COM
PHONE: +44 (0)333 241 2997

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