

PRODUCTS & SERVICES

HUMAN PROTEINS • ENZYMES • BBI BIOBANK • ANTIBODIES
NANOPARTICLES • GOLD CONJUGATES • LATERAL FLOW TEST
DEVELOPMENT & MANUFACTURE • CUSTOM DEVELOPMENT



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HUMAN PROTEINS

Disease Area	Product Name
Acute Phase	C-reactive protein (CRP)
	Haptoglobin
	(α) alpha - 1- acid glycoprotein
	(α) alpha - 1- antichymotrypsin (ACT)
Autoimmune	(β) Beta-2-glycoprotein-1 (B2GP1)
	Thyroglobulin (Tg)
	Thyroid peroxidase (TPO)
Bone Metabolism	Vitamin D (derivatives and conjugates)
Complement & Clotting Proteins	Complement C3c
	Complement C4c
	Complement C1q
	D-dimer (D-D)
Hormones & Cytokines	Follicle stimulating hormone (FSH)
	Growth hormone (hGH)
	Human chorionic gonadotropin (hCG)
	Parathyroid hormone (PTH) (recombinant)
	Placental lactogen (hPL)
	Pregnancy-associated plasma protein-A (PAPP-A)
	Prolactin (recombinant) (PRL)
	Sex hormone-binding globulin (SHBG)
Renal Markers	Cystatin C (CysC)
	Lipocalin (NGAL) (recombinant)
	Retinol binding protein (RBP)
	Tamm horsfall glycoprotein (THG)
	α 1-microglobulin (α 1M)
Immunoglobulins	IgA
	IgE
	IgG
	IgM
	Kappa light chain
	Lambda light chain
Nutritional Markers	Albumin (ALB)
	Ferritin
	Prealbumin (Prealb)
	Transferrin
	Transferrin receptor (TfR)
Tumour Markers	Alpha fetoprotein (AFP)
	Beta 2-microglobulin (β 2M)
	CA125
	CA15-3
	CA19-9
	Carcinoembryonic antigen (CEA)
	CYFRA-21
	Neuron specific enolase (NSE)
	Prostate-specific antigen (PSA)
	PSA-ACT complex
Inflammation Markers	C-reactive protein (CRP)
	Procalcitonin (PCT) (recombinant)
Cardiac Markers	Apolipoprotein A1 (Apo A1)
	Creatine kinase MB (CK-MB)
	Creatine kinase MM (CK-MM)
	Galectin 3 (Gal-3) (recombinant)
	High-density lipoprotein (HDL)
	Low-density lipoprotein (LDL)
	Myeloperoxidase (MPO)
	Myoglobin (MYO)
	N-terminal prohormone brain natriuretic peptide (NT-Pro BNP)
	Troponin complex (cTn)
Troponin I	
Troponin T	
Plasma Proteins	Albumin
	Butyryl cholinesterase (BCHE)
	Ceruloplasmin
	Thyroxine binding globulin (TBG)
Infectious Diseases	
Viral	HIV (recombinant)
	Dengue virus
Parasitic/Protozal	Malaria

CUSTOM DEVELOPMENT AND MANUFACTURE OF ANTIGENS

Our custom antigen development service takes recombinant or native antigens from initial feasibility right through to verification. If you can't find the antigens you are looking for, contact us today and we will do our best to provide a custom solution.

The Process



FEASIBILITY

RECOMBINANT

- + Screening of gene databases
- + E coli & Pichia
- + Cloning
- + Transformation
- + Small scale fermentation

NATIVE

- + Sourcing of raw materials of human origin
- + Small scale extraction and purification



OPTIMISATION

RECOMBINANT

- + Optimised growth conditions
- + Formulation
- + Downstream processing
- + Purification
- + Fermentation capacity of 30L per batch

NATIVE

- + Large scale extraction
- + Downstream processing purification



VERIFICATION

NATIVE & RECOMBINANT

- + HPLC
- + Western blot
- + Protein electrophoresis
- + IEF Gels
- + Commercial autoanalysers
- + Stability trials
- + Validation

Discuss your requirements with our technical team on +44 (0) 2920 767 499 or email sales@bbisolutions.com

ENZYMES

Industry	Application	Product Name
Diagnostic Enzymes	Clinical Chemistry	Cholesterol esterase
		Cholesterol oxidase
		Creatinase
		Creatininase
		Glucose-6 phosphate dehydrogenase
		Glucose oxidase
		Beta glucosidase
		Glutamate dehydrogenase (GLDH)
		Lactate dehydrogenase (LDH)
		Malate dehydrogenase (MDH)
		Mutarotase
		Peroxidase
		Phosphoenolpyruvate carboxylase (PEPC)
		Sarcosine oxidase
		Urease
		Uricase
		Xanthine oxidase
		Immunoassay
	Intrinsic factor	
	Peroxidase	
	Biosensor	Glucose oxidase
		FAD dependent glucose dehydrogenase
		Cholesterol esterase
		Cholesterol oxidase
		Creatinase
		Creatininase
		Sarcosine oxidase
		Urease
	Uricase	
	Urine Test Strips	Glucose oxidase
		Peroxidase
	Molecular Biology	Ribonuclease

ENZYMES

Industry

Product Name

Bulk Enzymes

Chymotrypsin
 Chymotrypsinogen
 Cytochrome C
 Deoxyribonuclease
 Horseradish peroxidase
 Hyaluronidase
 Mucopolysaccharidase
 Ribonuclease
 Trypsin

Miscellaneous Applications

Acylase
 D-amino acid oxidase
 Butyrylcholine esterase
 Carbonic anhydrase
 Catalase
 Elastase
 Hyaluronidase
 Lipoxidase
 Lysozyme
 Pepsin
 Superoxide dismutase
 Trypsin inhibitor



CUSTOM DEVELOPMENT AND MANUFACTURE OF ENZYMES

If BBI Solutions off the shelf products do not meet your requirements, we offer a custom development and manufacturing service for enzymes.

BBI's Capabilities

- + **Specialists in sourcing and extraction of animal and plant products** – We have extensive experience in sourcing raw materials worldwide
- + **Salt/solvent fractionation** – Batch sizes of up to 5,000 litres
- + **Chromatography** – Ion exchange chromatography, affinity chromatography, size exclusion chromatography, hydrophobic interaction chromatography
- + **Crystallisation** – Highly effective protein purification using solvent and aqueous media
- + **Ultrafiltration** – Volumes of 2,500 – 30,000 litres
- + **Freeze drying** – Capacity of 48 – 420 litres per cycle
- + **Quality control** – In-process analysis & monitoring, development of assay/test procedures
- + **Product handling/sampling** – We offer special packing according to customer specifications

The Process



FEASIBILITY

- + Small scale purification
- + Critical process parameters gained



DEVELOPMENT

- + Process optimisation
- + Intermediate scale up



VERIFICATION

- + Routine protein analyses
 - Enzyme assays
 - Protein determinations
 - Analytical chromatography
 - SDS PAGE
 - Isoelectric focusing
- + Develop protocols to ensure optimised yields



VALIDATION

- + Established manufacturing/testing processes
- + Consistent conformance to product specification

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BBI BIOBANK – DISEASE STATE PLASMA / NORMAL PLASMA & SERUMS / PATIENT SAMPLES

Disease Area	Product Name	Bulk Units No.	Patient Sample No.	Grade	Matrix Available
Autoimmune	Anti-CCP negative	SH159	N/A	Positive	Plasma
	Anti-dsDNA	SH237	N/A	Positive	Plasma
	Anti-histones	SH291	N/A	Positive	Plasma
	Anti-intrinsic factor	SH448	N/A	Positive	Plasma
	Anti-nuclear Ab negative	SH139	N/A	Positive	Plasma
	Anti-RNP/Anti-SS-A	SH293	N/A	Positive	Plasma
	Anti-thyroglobulin (Tg) negative	SH246	N/A	Negative	Serum / Plasma
	Anti-thyroglobulin (Tg) positive	SH245	SG311	Positive	Serum / Plasma
	Anti-thyroid peroxidase (TPO) negative	SH174	N/A	Negative	Serum / Plasma
	Anti-thyroid peroxidase (TPO) positive	SH244	SG310	Positive	Serum / Plasma
	Anti-voltage gated potassium channel	SH128	N/A	Positive	Plasma
	c-ANCA (PR3 antibodies)	SH303	N/A	Positive	Plasma
	CMV negative	SH602	N/A	Negative	Plasma
	Free T3	N/A	SG312	Elevated	Serum
	Free T4	N/A	SG313	Elevated	Serum
	Glomerular basement membrane (Anti GBM)	SH336	N/A	Positive	Plasma
	HAMA	SH327	N/A	Positive	Serum / Plasma
	HSV1/2 negative	SH604	N/A	Negative	Plasma
	p-ANCA (MPO antibodies)	SH152	N/A	Positive	Plasma
	Rheumatoid factor (RF)	SH155	SG328	Positive	Serum / Plasma
	Rubella negative	SH603	N/A	Negative	Plasma
	Serum amyloid A	SH127	N/A	Positive	Plasma
Systematic lupus erythematosus (SLE)	N/A	SG292	Positive	Serum / Plasma	
ToRCH negative	SH606	N/A	Negative	Plasma	
Toxoplasma negative	SH601	N/A	Negative	Plasma	
Biochemistry	Albumin	N/A	SG575	Level	Serum
	Ammonia	N/A	SG577	Level	Plasma
	Bicarbonate	N/A	SG578	Positive	Serum
	Calcium	N/A	SG579	Level	Serum / Plasma
	Chloride	N/A	SG580	Level	Serum / Plasma
	Creatinine	N/A	SG378	Elevated	Serum
	Vitamin D	SH370	SG531	Elevated	Serum
	Diabetes	Diabetes type 1	N/A	SG336	Positive
Diabetes type 2		N/A	SG187	Positive	Serum
Glucose		N/A	SG588	Elevated	Serum
Insulin		N/A	SG573	Elevated	Serum
Cardiac	Cholesterol	N/A	SG376	Elevated	Serum
	C-reactive protein (CRP)	SH100	SG320	Elevated	Serum
	D-dimer	N/A	SG324	Elevated	Serum / Plasma
	Myoglobin	N/A	SG209	Elevated	Serum
	NT proBNP	N/A	SG561	Elevated	Serum
	Triglyceride	N/A	SG587	Elevated	Serum
	Troponin I	N/A	SG323	Elevated	Serum / Plasma
	Troponin T	N/A	SG325-2	Mixed Titre	Serum
Hepatic	Hepatically impaired	N/A	SG505	Positive	Serum
	Bilirubin	N/A	SG377	Elevated	Serum

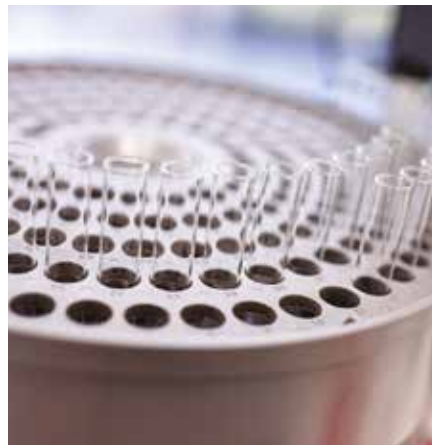
Disease Area	Product Name	Bulk Units No.	Patient Sample No.	Grade	Matrix Available
Hormones / Endocrine	Cortisol	N/A	SG601	Positive	Serum
	Growth hormone	N/A	SG509	Elevated	Serum
	Luteinising hormone (LH)	N/A	SG315	Positive	Serum
	Oestradiol	N/A	SG603	Elevated	Serum
	Parathyroid hormone (PTH)	N/A	SG370	Elevated	Serum
	Progesterone	N/A	SG369	Level	Serum
	Sex hormone binding globulin (SHBG)	N/A	SG490	Elevated	Serum
	Testosterone	N/A	SG549	Elevated	Serum
	Thyroid stimulating hormone (TSH)	N/A	SG314	Elevated	Serum
Infectious Disease	CMV IgG	SH242	SG342	Positive	Serum / Plasma
	CMV IgM	SH272	SG615	Positive	Serum / Plasma
	H. Pylori	SH270	N/A	Positive	Serum / Plasma
	Hepatitis A (HAV) IgM	SH265	N/A	Positive	Plasma
	Hepatitis C (HCV)	SH259	SH259	Positive	Plasma
	Hepatitis B (HBV) antibodies	SH257	N/A	Positive	Serum / Plasma
	HBsAg	SH256	SH256	Positive	Plasma
	HBc IgM	SH258	N/A	Positive	Plasma
	HIV 1	SH315	SH315	Positive	Plasma
	HIV 2	SH316	SG611	Positive	Serum / Plasma
	HIV window period	SH313	N/A	Positive	Plasma
	HIV/HBV co-infected	SH314	N/A	Positive	Plasma
	HTLV-1	SH329	N/A	Positive	Plasma
	Lyme IgG	SH307	SG392	Positive	Serum / Plasma
	Lyme IgM	SH309	N/A	Positive	Serum / Plasma
	Malaria	SH334	N/A	Positive	Serum / Plasma
	Measles IgG	SH481	N/A	Positive	Serum / Plasma
	Parvovirus B19	SH331	SG202	Positive	Serum / Plasma
	Rubella IgG	SH250	SG350	Positive	Serum / Plasma
	Rubella IgM (synthetic)	SH252	N/A	Positive	Serum
Syphilis	SH266	SH266	Positive	Plasma	
Toxoplasma IgG	SH240	SG340	Positive	Serum / Plasma	
Toxoplasma IgM	SH275	SG338	Positive	Serum / Plasma	
Pregnancy	Beta-human chorionic gonadotropin (β hCG)	N/A	SG560	Elevated	Serum / Plasma
	Human chorionic gonadotropin (hCG)	N/A	SG367	Elevated	Serum
	Pregnancy 1st trimester	SH285*	SG384	Positive	Serum / Plasma
	Pregnancy 2nd trimester	SH283*	SG382	Positive	Serum / Plasma
	Pregnancy 3rd trimester	SH284*	SG383	Positive	Serum / Plasma
Renal	Renal failure	SH507	SG507	Positive	Serum / Plasma
Tumour/ Cancer Markers	Alpha fetoprotein (AFP)	N/A	SG360	Elevated	Serum / Plasma
	CA125	N/A	SG355	Elevated	Serum / Plasma
	CA15-3	N/A	SG362	Elevated	Serum
	CA19-9	N/A	SG358	Elevated	Serum
	Carcinoembryonic antigen (CEA)	N/A	SG321	Elevated	Serum / Plasma
	Prostate specific antigen (PSA)	N/A	SG317	Elevated	Serum / Plasma
Other	Allergy – various types	SH166	SG508	Positive	Serum / Plasma
	Total IgE	SH234	N/A	Elevated	Serum / Plasma

All Biobank products are subject to availability.

* Bulk units derived from pooled samples for ethically sourced bulk.

BBI BIOBANK – SCIPAC CLINICAL SPECIMEN PANELS

Disease Area	Product Name	Bulk Units No.	Matrix Available
Infectious Disease	HIV-1 mixed viral load panel	SHK315-4V	Plasma
	HBV mixed viral load panel	SHK256-4V	Plasma
	HBV genotype panel	SHK256-4G	Plasma
	HCV mixed viral load panel	SHK259-4V	Plasma
	HCV genotype panel	SHK259-4G	Plasma
	Syphilis mixed titre panel	SHK266-4M	Plasma



ANTIBODIES – MONOCLONAL ANTIBODIES

Disease Area	Product Name	Cat No.	Application	Capture / Detection
Bone Metabolism Markers	Aggrecan "F(ab') ₂ fragments	BM447-M5H9	ELISA	Capture
	Aggrecan "F(ab') ₂ fragments	BM447-P7F2	ELISA	Detection
	Aggrecan	BM447-M5H8	ELISA	Capture
	Aggrecan	BM447-P7F2	ELISA	Detection
	Osteocalcin "F(ab') ₂ fragments	BM399-P5E6	ELISA	Detection
	Osteocalcin	BM399-P5E5	ELISA	Detection
	Osteocalcin	BM399-S6A3	ELISA	Capture
	Parathyroid hormone	BM361-E4H3	ELISA	Detection
	Vitamin D 250H D2+D3	BM439-Z6B8	ELISA	Capture
Cardiac Markers	ACTH	BM445-S5B2	ELISA	Capture
	FABP heart	BM442-D2C9	ELISA	Detection
	FABP heart	BM442-D6D1	ELISA	Capture
	Myoglobin	BM222-S1B5	LF	Detection
	Myoglobin	BM222-T8D3	LF	Capture
	Myoglobin	BM222-Z8G5	LF	Detection
	NT-pro BNP	BM449-S2E1	LF	Detection
	NT-pro BNP	BM449-P2F6	LF	Capture
	Renin	BM438-K9C2	ELISA	Capture
	Renin	BM438-S4D2	ELISA	Detection
	Troponin I	BM322-K5F1	LF / ELISA / WB	Capture
	Troponin I	BM322-M4E5	LF / ELISA / WB	Detection
	Troponin I	BM322-N4D1	LF / ELISA / WB	Capture
	Complement and Clotting Markers	D dimer clone 1D2	BM243-1D2	LF / ELISA / WB
D dimer clone 3B6		BM243-3B6	LF / ELISA / WB	ELISA = Capture, LF = Detection
Diabetes	Glycophorin A (red blood cell) clone 3A1	BM428-M4H4		
	HbA1c	BM300-F7C2	LF / ELISA / WB	Detection
	HbA1c	BM300-H2B1	LF / ELISA / WB	Detection
	HbA1c	BM300-H2E2	LF / ELISA / WB	Detection
	HbA1c	BM300-P4D1	LF / ELISA / WB	Detection
	HbA1c	BM300-S3C9	LF / ELISA / WB	Detection
	Hemoglobin	BM302-F1B4	LF / ELISA / WB	Capture
	Hemoglobin	BM302-S6B9	LF / ELISA / WB	Capture
	Insulin	BM364-Z8A2	ELISA	Capture
	Insulin	BM364-T8F5	ELISA	Detection
Drugs of Abuse	THC Δ9	BM260-V1D6	ELISA / WB / LF	Competitive
Growth Factors	IGFBP3	BM396-P6F9	ELISA	Capture
	IGFBP3	BM396-V3C7	ELISA	Detection

ANTIBODIES – MONOCLONAL ANTIBODIES

Disease Area	Product Name	Cat No.	Application	Capture / Detection
Hormones	LH	BM200-K5C9	WB / ELISA	Capture
	Growth hormone	BM390-H2H5	ELISA	Detection
	Growth hormone	BM390-G5F7	ELISA	Capture
	Growth hormone "F(ab') ₂ fragments	BM390-G5F8	ELISA	Capture
	Progesterone	BM320-F6A9	WB / ELISA	Competitive
Immunoglobulins	Human IgA	BM400-K9G2	ELISA	
	Human IgE	BM395-G7D5	ELISA	
	Human IgG	BM376-P7B1	ELISA	
	Human IgM	BM377-H4A6	ELISA	
Infectious Disease Markers	C. difficile toxin A	BM346-E4B9	LF	Capture
	C. difficile toxin A	BM346-F9C6	LF	Detection
	C. difficile toxin B	BM347-N4A8	LF, ELISA, WB	Capture
	C. difficile toxin B	BM347-T4G1	LF, ELISA, WB	Detection
	Dengue NS1 subtypes 1 + 2	BM404-H3C7	LF	
	Dengue NS1 subtypes 1 + 2	BM404-K2G4	LF	Capture / Detection
	Dengue NS1 subtype 1	BM409-V8F1	LF	Detection
	Dengue NS1 subtype 1	BM409-Z2H9	LF	
	Dengue NS1 subtype 1	BM409-G3D1	LF	Detection
	Dengue NS1 subtype 2	BM339-P3D8	LF	Capture / Detection
	Dengue NS1 subtype 2	BM339-P6C6	LF	Capture / Detection
	Dengue NS1 subtype 2	BM339-T3H2	LF	Capture / Detection
	Dengue NS1 subtypes 2 + 3	BM405-K9A1	LF	Capture / Detection
	Dengue NS1 subtype 3	BM406-F2E8	LF	Capture / Detection
	Dengue NS1 subtype 3	BM406-G3E1	LF	
	Dengue NS1 subtypes 2 + 4	BM407-K3A2	LF	Detection
	Dengue NS1 subtypes 2 + 4	BM407-N3F3	LF	Capture / Detection
	Dengue NS1 subtype 4	BM408-M2B3	LF	Detection
	Dengue NS1 subtype 4	BM408-F5F4	LF	Detection
	Dengue NS1 subtype 4	BM408-N9G5	LF	Capture
	Ebola Sudan	BM430-G9H1	LF	
	Ebola Zaire	BM431-M4B1	LF, WB	
	Ebola Zaire	BM431-O9C2	LF, WB	
	Ebola Zaire	BM431-V1D1	LF, WB	
	Ebola Zaire	BM431-Z2G2	LF, WB	
	Ebola (7 Zaire and 6 Sudan strains - 13 antibodies) panel	BM435-PANEL	LF*,WB*	* not all clones suitable for application
	Ebola Reston panel (5 antibodies)	BM433-PANEL	LF*	* not all clones suitable for application
	Ebola Sudan panel (6 antibodies)	BM430-PANEL	LF*	* not all clones suitable for application
	Ebola Zaire panel (7 antibodies)	BM431-PANEL	LF*, WB*	* not all clones suitable for application

Disease Area	Product Name	Cat No.	Application	Capture / Detection
	HBsAg – TOTAL	BM310-P5H3	WB / ELISA	Capture / Detection
	HBsAg – TOTAL	BM310-V4F9	ELISA	Capture
	HBsAg – TOTAL	BM310-V8G2	WB / ELISA	Capture
	HBsAg – TOTAL	BM310-Z2E8	ELISA	Detection
	HIV2 (GP36)	BM375-D1C3	WB / ELISA	
	HIV P24	BM333-V4C3	LF	Capture
	H. pylori	BM345-M5F6	LF	Capture / Detection
	Leptospira	BM353-N8A9	LF	
	Listeria spp	BM401-K4H9	LF	Capture / Detection
	Listeria spp	BM401-M7A5	LF	Detection
	Listeria spp	BM401-T7B6	LF	Capture
	Malaria HRP2 (Pf only)	BM340-F5D2	LF	Detection
	Malaria HRP2 (Pf only)	BM340-S1F4	LF	Capture
	Malaria HRP2 (Pf only)	BM340-U7D4	LF	Capture
	Malaria HRP2 (Pf only)	BM340-V2B8	LF	Detection
	Malaria HRP2 (Pf only)	BM340-Z2D5	LF	Capture
	Malaria LDH	BM356-D2B4	LF	Detection
	Malaria LDH (pan)	BM355-P4A2	ELISA / LF	Detection
	Malaria LDH (Pf and Pv only)	BM402-Z7C6	LF	Capture
	MRSA (PBP2a)	BM306-M3D1	ELISA	Capture
	MRSA (PBP2a)	BM306-O3G7	ELISA	Detection
	MRSA (PBP2a)	BM306-S6G8	ELISA	Capture
	Norovirus GI and GII	BM349-G1G1	LF	Capture
	Norovirus GII	BM349-H1C3	LF	Capture
	VanA (vancomycin resistant enterococci)	BM334-G3H9	ELISA	Capture
	VanA (vancomycin resistant enterococci)	BM334-G8A5	ELISA	Capture
	VanA (vancomycin resistant enterococci)	BM334-P2C1	ELISA	Detection
Kidney Markers	NGAL	BM344-P8H5	ELISA	Capture / Detection
	NGAL	BM344-K8G8	ELISA	Capture / Detection

ANTIBODIES – MONOCLONAL ANTIBODIES

Disease Area	Product Name	Cat No.	Application	Capture / Detection
Pregnancy Markers	AFP	BM315-F1C7	ELISA	Detection
	AFP	BM315-H6H8	ELISA	Capture
	Alpha hCG	BM319-M6H2	WB / ELISA	Capture
	beta hCG	BM317-M5C9	WB / ELISA	Detection
	beta hCG	BM317-P7E5	WB / ELISA	Detection
	beta hCG	BM317-Z2A2	WB / ELISA	Detection
	Fetal fibrinectin	BM450-H9F7	ELISA	Capture
	Fetal fibrinectin	BM450-V3B1	ELISA	Detection
	Free beta HCG	BM317-T7H6	ELISA	Capture
	Free beta HCG	BM317-S8D2	ELISA	Detection
	Free beta HCG	BM317-N2B7	ELISA	Detection
	FSH	BM202-V7D8	ELISA	Capture
	FSH	BM202-Z1G4	ELISA	Detection
	HCG	BM206-V6E9	ELISA	Capture
	Placental lactogen	BM446-E6H6	ELISA	Capture
	Placental lactogen	BM446-F4D6	ELISA	Detection
	Prolactin	BM204-N5A1	ELISA	Capture
	Prolactin	BM204-T7G5	ELISA	Detection
	Sepsis Markers	Procalcitonin	BM448-M5C1	LF
Procalcitonin		BM448-H3D5	LF	Capture
Procalcitonin		BM448-D2F8	LF	Capture
Procalcitonin		BM448-M6F9	LF	Capture
Procalcitonin		BM448-T7H2	LF	Detection
Tag Markers	GST	BM426-H9E9	LF	Detection
Thyroid Markers	Tg	BM208-N1E7		
	TSH	BM216-T5C1	ELISA	Capture
	TSH	BM216-V6D5	LF	Detection
	TSH	BM216-S1A5	LF	Capture
	TSH	BM216-T7F7	ELISA	Capture
	TSH	BM216-P8F4	ELISA	Detection
	TSH "F(ab') ₂ fragments	BM216-P8F5	ELISA	Detection
	TSH	BM250-E6B7		Capture
	TSH	BM216-P2E7		Detection
	T3	BM440-P3H6	ELISA	Capture
	T4	BM441-U6E2	ELISA	Capture

Disease Area	Product Name	Cat No.	Application	Capture / Detection
Tumour Markers	AFP	BM315-E2G9	WB / ELISA	Capture
	CA125	BM234-S3A8	WB / ELISA	Capture
	CA125	BM234-T5D5	WB / ELISA	Detection
	CA15-3	BM236-K2F4	WB / ELISA	Capture
	CA15-3	BM236-K6A5	WB / ELISA	Detection
	CA15-3	BM236-V2G9	WB / ELISA	Capture
	CA19-9	BM238-G6C8	WB / ELISA	Capture
	CA19-9	BM238-H7D1	WB / ELISA	Detection
	CEA	BM220-E1E3	ELISA	Capture
	CEA	BM220-D7C6	ELISA	Detection
	CEA	BM220-E7E2	ELISA	Detection
	CEA	BM220-F5H1	ELISA	Detection



ANTIBODIES – MOUSE MONOCLONALS

RECOMMENDED MATCHED PAIRS FOR IMMUNOASSAYS

Marker	Application	Paired Capture Ab	Paired Detection Ab
AFP	ELISA	BM315-F1C7	BM315-H6H8
Aggrecan	ELISA	BM447-M5H9	BM447-P7F2
C.difficile toxin B	LF	BM347-N4A8	BM347-T4G1
CA125	ELISA	BM234-S3A8	BM234-T5D5
CA15-3	ELISA	BM236-K2F4 or BM236-V2G9	BM236-K6A5
CA19-9	ELISA	BM238-G6C8	BM238-H7D1
CEA	ELISA	BM220-E1E3	BM220-D7C6 or BM220-E7E2 or BM220-F5H1
D-dimer	LF	BM243-1D2	BM243-3B6
D-dimer	ELISA	BM243-3B6	BM243-1D2
Dengue NS1 subtype 1	LF	BM409-K2G4	BM409-G3D1
Dengue NS1 subtype 1	LF	BM409-K2G4	BM409-V8F1
Dengue NS1 subtype 1	LF	BM409-P3B4	BM409-G3D1
Dengue NS1 subtype 2	LF	BM339-T3H2	BM339-P3D8
Dengue NS1 subtype 2	LF	BM339-T3H2	BM339-P6C6
Dengue NS1 subtype 3	LF	BM406-F2E8	BM405-K9A1
Dengue NS1 subtype 3	LF	BM405-K9A1	BM406-F2E8
Dengue NS1 subtype 4	LF	BM408-N9G5	BM407-K3A2
Dengue NS1 subtype 4	LF	BM408-N9G5	BM408-G8E7
FABP Heart	ELISA	BM442-D6D1	BM442-D2C9
Fetal Fibrinectin	ELISA	BM450-H9F7	BM450-V3B1
Free beta HCG Monoclonal Antibody	ELISA	BM317-T7H6	BM317-S8D2 / BM317-N2B7
FSH	ELISA	BM202-V7D8	BM202-Z1G4
Giardia	LF	BM423-V5C5	BM423-V5C5
Growth Hormone	ELISA	BM390-G5F8	BM390-H2H5
HBsAg Ad/Ay	LF, ELISA	BM310-V4F9	BM310-Z2E8
HCG beta	ELISA	BM317-M5C9	BM317-P7E5 or BM317-Z2A2
HCG total	ELISA	BM319-M6H2	BM317-M5C9
HbA1c	LF, ELISA	BM302-F1B4 or BM302-S6B9	BM300-F7C2
IGFBP3	ELISA	BM396-P6F9	BM396-V3C7
Insulin	ELISA	BM364-Z8A2	BM364-T8F5
Listeria	LF	BM401-K4H9	BM401-M7A5 or BM401-T7B6
Malaria (Pf and Pv)	LF, ELISA	BM402-Z7C6	BM355-P4A2
Malaria (Pf)	LF, ELISA	BM356-S1C8	BM355-P4A2
Malaria HRP	LF	BM340-F5D2	BM340-F5D2
Malaria HRP	LF	BM340-F5D2	BM340-Z2D5
Malaria pLDH	LF	BM355-P4A2	BM355-P4A2
Myoglobin	LF	BM222-T8D3	BM222-Z8G5
NT-pro BNP	LF	BM449-P2F6	BM449-S2E1
Osteocalcin	ELISA	BM399-S6A3	BM399-P5E6
PBP2A	ELISA	BM306-M3D1	BM306-O3G7
Placental Lactogen	ELISA	BM446-E6H6	BM446-F4D6

Marker	Application	Paired Capture Ab	Paired Detection Ab
Procalcitonin	LF	BM448-H3D5	BM448-M5C1
Prolactin	ELISA	BM204-N5A1	BM204-T7G5
Renin	ELISA	BM438-K9C2	BM438-S4D2
Troponin I	ELISA	BM322-N4D1 or BM322-K5F1	BM322-M4E5
TSH	ELISA	BM216-T5C1 / BM216-T7F7	BM216-P8F5
TSH	LF	BM216-S1A5	BM216-V6D5
VanA	ELISA	BM334-G8A5 or BM334-G3H9	BM334-P2C1

ANTIBODIES – RECOMBINANT FAB MONOCLONAL ANTIBODIES

Disease Area	Biomarker	Application	Detection Range*	Capture Antibody	Detection Antibody
Autoimmune	MPO	ELISA / Luminex	2 – 1200 ng/mL	BR240-N5G6	BR240-D8B4
Cardiac Marker	Adiponectin	Competitive ELISA / Luminex	230 – 59118 ng/mL	BR101-H2B4 (Competitive)	
	Adiponectin	ELISA	0.1 – 525 ng/mL	BR101-P7E2	BR101-M3H8
	CKBB	ELISA	0.15 – 33 ng/mL	BR112-V6F6	BR112-Z1C4
	E-selectin	ELISA	0.05 – 235 ng/mL	BR117-K2E7	BR117-H5B6
	Neutrophil elastase	ELISA	0.008 – 33 ng/mL	BR127-H2A4	BR127-G7C2
	ST2	ELISA / Luminex	1.39 – 97 ng/mL	BR139-S7B7	BR139-V8D4
	ST2	ELISA / Luminex	0.08 – 31 ng/mL	BR139-T3G5	BR139-V8D4
Diabetes	Proinsulin C-peptide	ELISA / Luminex	0.09 – 38 ng/mL	BR143-G5D3	BR143-K7C9
Inflammation Markers	CRP	ELISA / Luminex	151 – 231000 ng/mL	BR228-D4A3 (Competitive)	
Obesity	FABP intestine	ELISA	0.65 – 100 ng/mL	BR115-F7G7	BR115-G6B9
	Leptin	ELISA	0.17 – 135 ng/mL	BR123-F8F4	BR123-F4H5
	Leptin	ELISA / Luminex	3.9 – 691 ng/mL	BR123-M4D6	BR123-P4G2
Pregnancy	Free PAPP A	ELISA / Luminex	0.3 - 299 ng/mL	BR129-M5E3	BR129-F2H4
Renal Function	Cystatin C	ELISA	165 – 9073 ng/mL	BR175-G8D9 (Competitive)	
	Cystatin C	ELISA	165 – 9073 ng/mL	BR175-H4C8 (Competitive)	
	FABP liver	ELISA	0.03 – 90 ng/mL	BR106-G5A2	BR106-P9F5
Tumour Markers	Angiopoietin 2	ELISA	0.001 – 97 ng/mL	BR103-P4E8	BR103-V5F2
	Big endothelin 1	ELISA / Luminex	0.001 – 1.8 ng/mL	BR104-D6A4	BR104-H1A4
	Calcitonin	ELISA	0.006 – 2 ng/mL	BR388-G6B1	BR388-D5C4
	Cathepsin D	ELISA	0.03 – 150 ng/mL	BR107-F5G2	BR107-K6D3
	Eotaxin	ELISA	0.007 – 2 ng/mL	BR108-M7H3	BR108-K2D9
	HSP60	ELISA	0.1 – 1200 ng/mL	BR100-G2A7	BR100-H4C2
	MMP7	ELISA	0.1 – 293 ng/mL	BR124-S4E3	BR124-T6G8
	S100 beta	ELISA	0.04 – 5.6 ng/mL	BR332-G4B9	BR332-F5H7

ANTIBODIES – POLYCLONAL ANTIBODIES

Disease Area	Biomarker	Cat No.	Species Raised in
Anemia Markers	Ferritin	BP230-3	Rabbit
	Haptoglobin	BP228-3	Goat
Cardiac Markers	CKMM	BP295-3	Goat
Complement & Clotting	C4	BP226-3	Goat
Diabetes	Haemoglobin	BP331-3	Goat
Immunoglobulins	Chicken IgY	BP440-3	Goat
	Goat IgG	BP441-3	Donkey
	Kappa	BP222-3	Chicken
	Mouse IgG	BP438-3	Goat
	Rabbit IgG	BP439-3	Goat
Inflammation Markers	CRP	BP200-3A	Goat
Pulmonary Markers	A1AT	BP212-3	Goat
Renal Markers	A2M	BP214-3	Chicken
	Albumin	BP208-3	Goat
	Cystatin C	BP234-3	Goat
Tumour Markers	AFP	BP210-3	Goat
	B2M	BP216-3	Chicken
	Ceruloplasmin	BP218-3	Chicken



* Detection Range is assay dependent. These antibodies have been optimised for sensitivity levels required for the detection of a specific condition. It is likely that the detection range can be extended beyond the figure published here.

NANOPARTICLES

Particle Type	Size	Cat No.	Available Sizes
Gold Nanoparticles	2nm	EM.GC2	20ml, 100ml, 500ml, 1l
	5nm	EM.GC5	20ml, 100ml, 500ml, 1l
	10nm	EM.GC10	20ml, 100ml, 500ml, 1l
	15nm	EM.GC15	20ml, 100ml, 500ml, 1l
	20nm	EM.GC20	20ml, 100ml, 500ml, 1l
	30nm	EM.GC30	20ml, 100ml, 500ml, 1l
	40nm	EM.GC40	20ml, 100ml, 500ml, 1l
	50nm	EM.GC50	20ml, 100ml, 500ml, 1l
	60nm	EM.GC60	20ml, 100ml, 500ml, 1l
	80nm	EM.GC80	20ml, 100ml, 500ml, 1l
	100nm	EM.GC100	20ml, 100ml, 500ml, 1l
	150nm	EM.GC150	20ml, 100ml, 500ml, 1l
	200nm	EM.GC200	20ml, 100ml, 500ml, 1l
	250nm	EM.GC250	20ml, 100ml, 500ml, 1l
	20nm, 40nm, 60nm, 80nm	GCIKITDIAG Plus	4x100ml
20nm, 40nm, 60nm, 80nm	GCIKITDIAG	4x20ml	
5nm, 10nm, 20nm, 40nm	GCIKITLIFE	4x20ml	
Silver Nanoparticles	20nm	EM.SC20	20ml, 100ml, 500ml, 1l
	40nm	EM.SC40	20ml, 100ml, 500ml, 1l
	60nm	EM.SC60	20ml, 100ml, 500ml, 1l
	80nm	EM.SC80	20ml, 100ml, 500ml, 1l
Platinum Nanoparticles	20nm	EM.PT20	20ml, 100ml

High OD nanoparticles available in all particle sizes 2-250nm up to OD 100.



*OD 100 limited to 1ml batch sizes.

GOLD CONJUGATES

Conjugate Type	Product Name	Cat No.**
Anti-Biotin Conjugates	Streptavidin	BA.STP20 / BA.STP40
	Monoclonal anti biotin 40nm	BA.MAB40
	Goat anti biotin	BA.GAB20 / BA.GAB40
Disease State Conjugates	Anti-HbsAg*	BA.HbsAg40
Fertility Conjugates	Anti-beta hCG*	BA.HCG40
	Anti-LH*	TR.LHQ0
Anti-Human Conjugates	Goat anti human IgG	BA.GAHL40
	Protein A	BA.PAG20 / BA.PAG40
	Goat anti human IgG Fc fragment	BA.GAH40
	Goat anti human IgM Fc5 μ fragment	BA.GAHM40
	Goat anti human IgA	BA.GAHA40
Control lines & Anti-species	Chicken IgY*	CONT.CHICK
	Goat anti-rabbit IgG	BA.GAR40
	Goat IgG	BA.GG40
	Mouse IgG	BA.MG40
	Goat anti-mouse	BA.GAM40
Other Conjugates	BSA conjugate	BA.BSA40
	Goat anti-mouse IgM*	BA.GAMM40

“ The gold and conjugation processes at BBI are unrivalled – we found that BBI was the best that we could work with. ”

CEO James Lousararian, Verax Biomedical

* Matched pair available on request.

** 20 denotes 20nm particles used in conjugate, 40 denotes 40nm particles used in conjugate.

CUSTOM CONJUGATION

Our custom conjugation service provides high quality conjugates, optimised to meet your unique quality control requirements. Our experienced scientists work directly with you to provide sensitive, specific, and reproducible conjugates.

The Service

- + Develop high quality conjugates using antibodies, antigens, oligos or aptamers provided by you or sourced by us
- + Conjugate to numerous nanoparticles including BBI Solutions' world renowned gold
- + Optimise the sensitivity of your conjugate to meet your pre-agreed requirements and stability
- + Batch production up to 24 litres at OD10, or alternatively we can provide a custom OD preparation

We conjugate to numerous nanoparticles including:

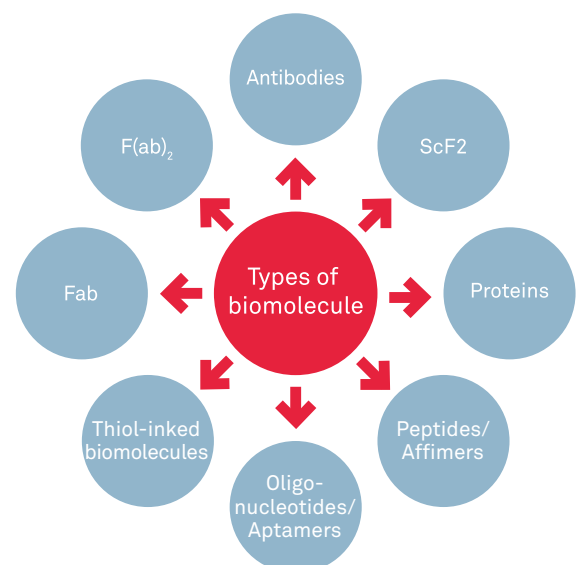
- + Gold nanoparticles
- + Silver nanoparticles
- + Platinum nanoparticles
- + Latex nanoparticles
- + Magnetic nanoparticles

Designed to meet your individual needs

Specificity, sensitivity and reproducibility should define the specification and fulfil your absolute minimum expectations of the conjugate.

Our scientists work in partnership with customers to bring all the vital ingredients together and provide sensitive, stable, reproducible conjugates time after time.

Once you are happy with your conjugate, we can put a commercial supply plan in place to ensure security of supply.



Discuss your requirements with our technical team on +44 (0) 2920 767 499 or email sales@bbisolutions.com

LATERAL FLOW TEST DEVELOPMENT

Are you looking to outsource your lateral flow test development?

At BBI Solutions we understand that getting a fast, accurate result is critical.

Whether you are looking to **improve an existing assay** or **develop a new assay**, we offer an **end to end, customised solution** that will allow you to deliver a robust, reliable result to the global market place.

Our capabilities

Our capabilities allow us to take assay development from initial antibody screening through to final manufacture and beyond. We have over 25 years' experience developing more than 250 qualitative, semi quantitative and quantitative assays.

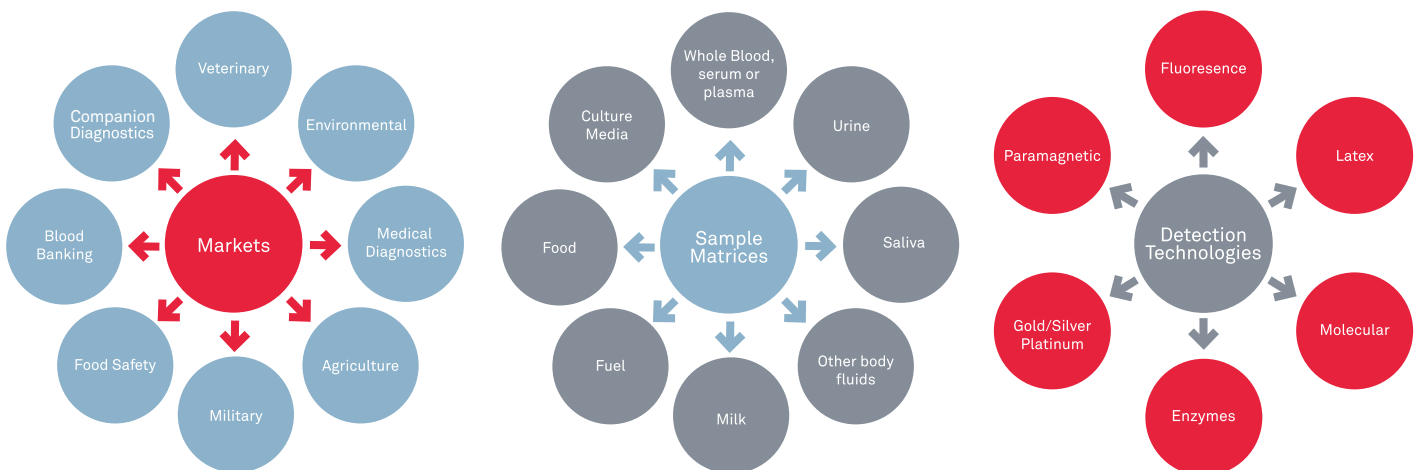


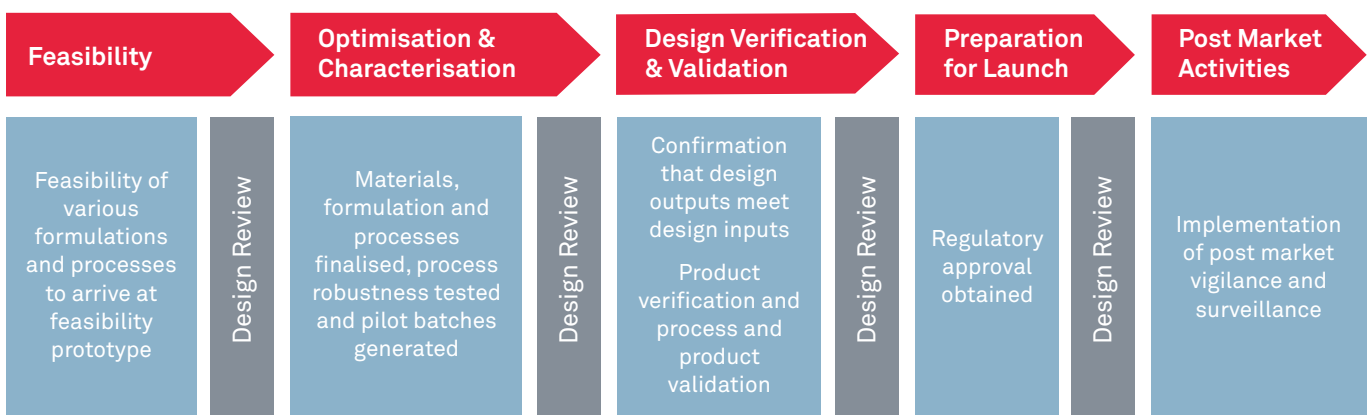
Diagram to showcase the markets, sample matrices and detection technologies we have worked with.



Our flexible turnkey approach

Our turnkey approach means you're not locked in. A dedicated team of scientists work on your product alone, and at the end of the development we hand over the design history file so that you 'own' your test.

Depending on the complexity of the assay, a typical development programme for a standard IVD will work as follows:



Next generation assay development to enhance the performance of your test

BBI has an unparalleled technical skill set and access to the latest performance enhancing platforms and technologies to help customers make the best test possible.

Ask us about our:

- + **Sensitivity enhancement technology** – offering you the opportunity to potentially increase the sensitivity of your assay – without increasing its complexity
- + **Award winning integrated platforms** – simplifying the process for end users whilst reducing the risk of user error and cross contamination
- + **Novarum DX mobile reader solution** – allowing quantitative analysis in real time using smartphone technology



OEM LATERAL FLOW TEST MANUFACTURE

Robust and flexible manufacturing options

You may be a new start-up company looking for someone to manufacture your assay, or a fast growing company under pressure to meet increasing demand. Our manufacturing service will deliver the results you need to fulfil your customer's expectations:

Key Benefits

- + **Flexible options** – catering for increased demand and technically challenging manufacture.
- + **Technical transfer to manufacturing** – BBI has extensive experience and expertise in successfully transferring IVD products to manufacturing.
- + **Competitive product pricing** – using our automation capabilities to manufacture on a large scale will drive production costs down without compromising quality.
- + **Reliable supply** – we have more than 60 assays in routine manufacture across our facilities located in the UK (Cardiff, Wales; Dundee, Scotland) and the USA (Madison, Wisconsin).
- + **Quality assurance guaranteed** – all of our sites are ISO 13485 and ISO 9001 accredited and our Dundee site is an FDA registered facility.



BBI's Manufacturing Capabilities

THE FACTS

- + 30,000 sq feet for manufacturing
- + Capacity of up to 15 million assays
- + 5K to 100K+ device batch sizes
- + Facilities located in the UK (Cardiff and Dundee) and the USA (Madison)
- + ISO 13485 and ISO 9001 certified QMS systems across all sites

OUR PRODUCTS BY SECTOR

SECTOR	PRODUCTS									
	Antibodies (Monoclonal)	Antibodies (polyclonal)	Human Antigens (including protein solutions)	Autoimmune Proteins	Infectious Disease Proteins	Clinical Chemistry Enzymes (animal & plant derived)	Disease State Plasma (Infectious disease and autoimmune)	Bulk Diagnostic Proteins	Normal Plasma	Depleted Serum and Plasma
	Raw Materials / Reagents									
Reagent Distributors	●	●	●	●	●	●	●	●	●	●
Research / Academic Institutions	●	●	●	●	●	(●)	(●)		●	●
ELISA Assay Manufacturers	●	●	●	●	●		●	●	●	●
Biochemistry Autoanalyser Manufacturers	●	●	(●)			(●)		●	●	●
Immunoassay Autoanalyser Manufacturers	●	●	●	●	●		●		●	●
Instrument Manufacturers	(●)	(●)	(●)	(●)	(●)			(●)	●	●
Lateral Flow Device Manufacturers	●	●	●	●	●		●	(●)	●	●
Point of Care Device Manufacturers	●	●	●	●	●	●	●	(●)	●	●
Molecular Biology Assay Manufacturers					(●)		●		●	
Third party Assay Development Company	●	●	●	●	●	●	●	●	●	●
Diagnostic Testing Laboratories			(●)	(●)	(●)				●	●
Clinical Chemistry Control Manufacturers			●	(●)		●	●	●	●	●
Quality Control schemes			●				●	●	●	●
Cell Culture Media Manufacturers								●		
Contract Research / Manufacturing organisations	(●)	(●)	(●)	(●)	(●)	(●)	(●)	●	●	●
Pharmaceutical Manufacturers	(●)	(●)							●	●
Cosmetic Manufacturers										
Military / Defence Agency	●	●	(●)		(●)				●	

● = Relevant product

(●) = Potentially relevant for some customers

Raw Materials / Reagents												Contract Device Development / Manufacture				
Clinical (Patient) Samples	Diagnostic Enzymes	Bulk Enzymes	Platinum Colloid	Paramagnetic Particles	Fluorescent Particles	Gold particles	Gold Conjugates	Cell Culture Reagents	Custom Antigen and Depleted Serum development/manufacture	Custom Enzyme Development Manufacture	Custom Conjugation	Lateral Flow Device Development	Lateral Flow Device Manufacture	IMASS™ Device	Atomorapid™	Novatum™
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Get in touch to arrange a sample or find out more about any of our products

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