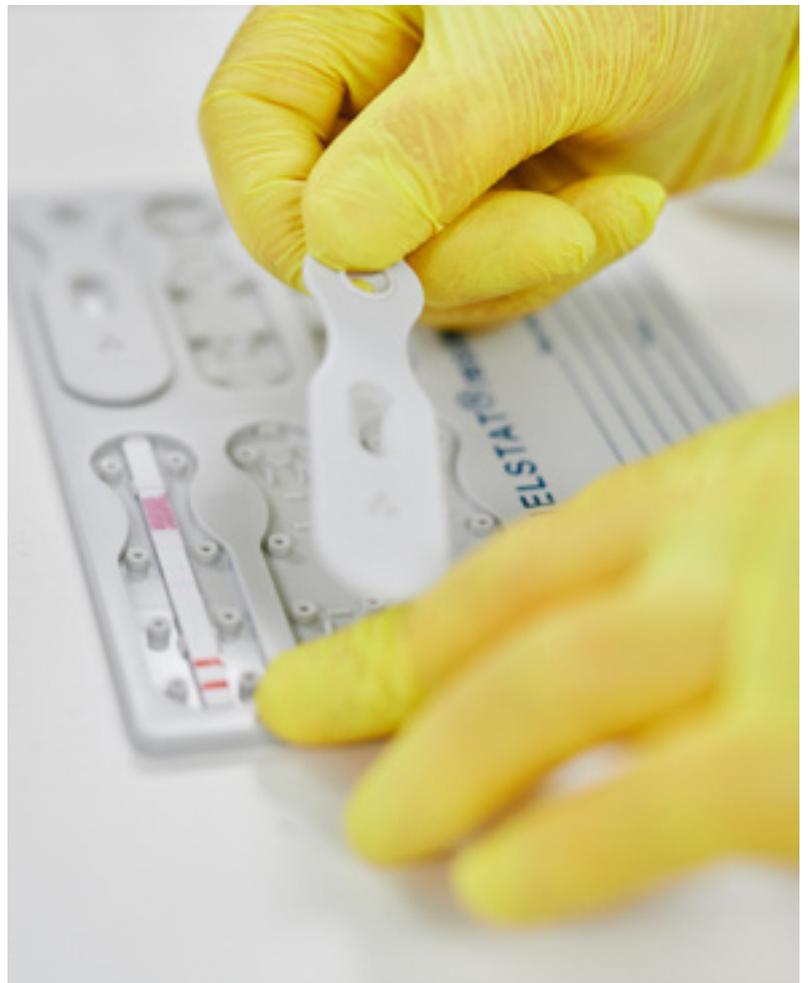
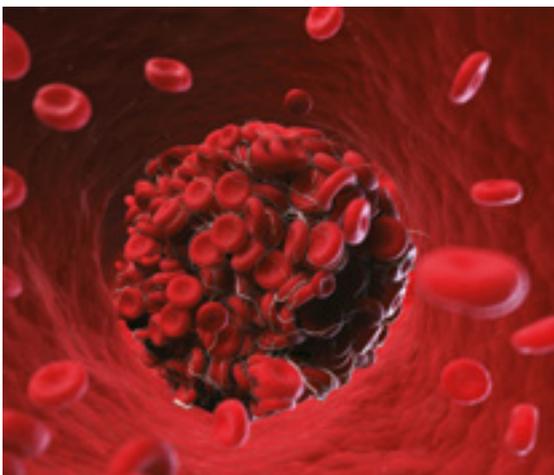


PRODUCTS & SERVICES

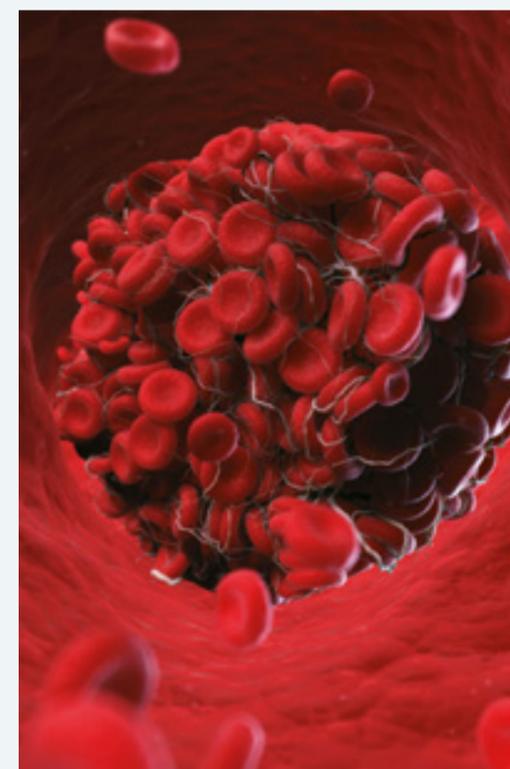
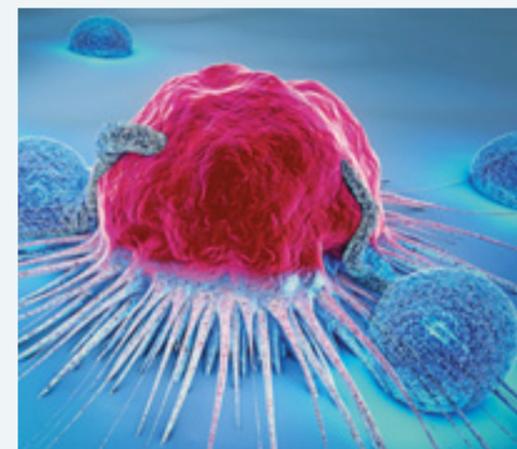
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- ENZYMES
- SERUM & PLASMA
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- ANTIBODY DEVELOPMENT
- NANOPARTICLES
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HUMAN ANTIGENS

| Disease Area | Product Name | Prod. Code (Pure) | Prod. Code (Part-pure) |
|---------------------------|--|-------------------|------------------------|
| Autoimmune / Inflammation | (α) alpha - 1 - antichymotrypsin (ACT) | P159-5 | |
| | (α) alpha - 1 - antitrypsin (A1AT) | P165-5 | |
| | (β) Beta-2-glycoprotein-1 (B2GP1) | P195-5 | |
| | C-reactive protein (CRP) | P100-7N | |
| | Procalcitonin (PCT) (recombinant) | P742-1 | |
| | Thyroglobulin (Tg) | P128-0 | |
| Cancer / Tumour | Alpha fetoprotein (AFP) | P109-3 | |
| | Beta 2-microglobulin (β 2M) | P122-1 | P122-2 |
| | CA125 | | P251-4 |
| | CA15-3 | | P301-4 |
| | CA19-9 | | P291-4 |
| | Carcinoembryonic antigen (CEA) | P824-3 | |
| | CYFRA 21-1 | | P246-4 |
| | Neuron specific enolase (NSE) | P147-3 | |
| | Prostate-specific antigen (PSA) | P117-7 | P117-8 |
| | Prostatic Acid Phosphatase | P116-1 | |
| | PSA-ACT complex | P192-3 | P192-9 |
| Cardiac | Creatine kinase MM (CK-MM) | | P189-9 |
| | D-Dimer | P202-3 | P202-4 |
| | Galectin 3 (Gal-3) (recombinant) | P734-1 | |
| | High-density lipoprotein (HDL) | | P233-8 |
| | Low-density lipoprotein (LDL) | | P232-8 |
| | Myoglobin (MYO) | P136-3 | |
| | N-terminal prohormone brain natriuretic peptide (NT-Pro BNP) | P305-1 | |
| | Troponin complex (cTn) | | P184-4 |
| | Troponin I recombinant | P725-3 | |
| | Troponin T recombinant | P724-3 | |
| Hormones | Human chorionic gonadotropin (hCG) | P111-0 | P111-6 |
| | Prolactin | P700-1 | |
| | Sex hormone-binding globulin (SHBG) | P145-5 | P145-4 |
| Immunoglobulins | IgA | P143-3 | |
| | IgG | P142-1 | |
| | IgM | P141-5 | |
| Infectious Disease | HIVp24 | P714-3 | |
| Nutritional | Albumin (ALB) | P140-0 | |
| | Ferritin | P103-7 | |
| | HbA1c | PS186-9 | P186-0B |
| | Prealbumin (Prealb) | P171-1 | P171-2 |
| | Transferrin receptor (TfR) | | P185-9 |
| Plasma Proteins | Albumin | P714-3 | |
| | Complement C4c | P151-0 | P151-8 |
| | Complement C1q | P102-1 | |
| | Thyroxine binding globulin (TBG) | P125-1 | P125-2 |

HUMAN ANTIGENS

| Disease Area | Product Name | Prod. Code (Pure) | Prod. Code (Part-pure) |
|--------------|---|-------------------|------------------------|
| Renal | Cystatin C (CysC) | P175-1 | P175-2 |
| | Lipocalin (NGAL) (recombinant) | P722-1 | |
| | Retinol binding protein (RBP) | P124-1 | |
| | Tamm horsfall glycoprotein (THG) | P135-1 | |
| | α 1-microglobulin (α 1M) | P121-1 | P121-6 |

CUSTOM DEVELOPMENT & 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.



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)1495 363 000 or email sales@bbisolutions.com

ENZYMES



With a strong history of innovation and quality, BBI Solutions specialises in the extraction and purification of natural enzymes and related biochemicals from microbial, animal and plant tissues.

For over 60 years our products have been widely used in the medical diagnostics, healthcare and pharmaceutical industries where we have a reputation for effective and reliable products. With international multi-site manufacturing facilities and worldwide distribution capabilities supplying a truly global and diverse customer base, BBI Solutions is the partner of choice for anyone developing products incorporating enzymes.

Quality guaranteed, whatever your requirement

Working with an increasingly regulated marketplace, BBI Solutions is compliant with the ISO 13485:2016 Quality Standard and have the capability of following processes compliant with Current Good Manufacturing Practice (cGMP) Standards.

CORE COMPETENCIES

BBI Solutions is one of the world leaders in the manufacture and supply of high purity specialist enzymes and biochemicals to the diagnostic and pharmaceutical industries.

- + **Extensive product range** – our product portfolio incorporates specific product grades to suit numerous applications.
- + **Custom Manufacture** – we undertake bulk custom manufacture of enzymes, whilst delivering to your exact specifications within a short lead time.
- + **Stability** – we produce highly stable enzyme preparations for customers. This is achieved through the use of quality raw materials, innovative production methodologies and product formulations developed to maximise stability.
- + **Quality** – we aim to develop, manufacture and supply high quality enzymes which are consistent with the expectations and requirements of our customers and meet the applicable regulatory requirements.

KEY ENZYME PRODUCTS

HORSERADISH PEROXIDASE

Horseradish peroxidase (HRP) is one of the most commonly used enzyme labels in immunoassays.

- + **Controlled & consistent supply** – BBI have close and longstanding relationships with horseradish growers to ensure year round supply
- + **High Isozyme C content** – our HRP contains >90% isozyme C which provides exceptional purity so you can have confidence in your results
- + **High activity levels** – we achieve between 250-300U/mg, providing consistent and reliable performance
- + **Highly available amino groups** – this allows for clean conjugation
- + **Bulk extraction and purification capabilities** – large batch sizes allow us to fulfil multiple orders from a single batch reducing validation costs

GLUCOSE OXIDASE

BBI Solutions are the worlds leading supplier of Glucose Oxidase for biosensor application. Our GO is tried and tested and proven to perform in over 5 billion test strips every year.

- + **High levels of activity & purity** – enabling rapid test times and reducing signal interference
- + **Choice & flexibility** – we have multiple grades and custom preparations available for specific applications to optimise your assay at reduced cost
- + **Batch to batch reproducibility & consistency** – optimised and controlled manufacturing procedures to ensure reproducibility and consistency – essential in high volume strips
- + **Reliable source** – with an established and reliable supply chain at the volumes you require, which saves validation time

ALKALINE PHOSPHATASE

ALP is the other enzyme of choice for conjugates in immunoassays. It is often used as an alternative to HRP when a more linear reaction rate is required over a wide range of values. BBI's ALP12G is our highest specific activity product and best-selling line. Its performance has been proven in assays manufactured by some of the largest immunoassay and IVD companies.

- + **Highest activity on the market** – we achieve up to 2300 glycine U/mg protein and 7000 DEA U/mg so you can be confident in the performance of your assay
- + **High stability** – our product experiences <10% activity lost over 48 months ensuring reliable and consistent performance of your assay
- + **Multiple grades of product** – BBI offer ALP in a range of specific activities, including blocking grades, which allows you to pick the best product for your specific application
- + **Bulk extraction and purification capabilities** – large batch sizes allow us to fulfil multiple orders from a single batch reducing validation costs

ENZYME RANGE

| Product | Product Code | Activity | Source | Applications |
|------------------------------|--------------|-----------------------------|------------------------------|--|
| Alkaline Phosphatase | ALPI12G | > 2000 Glycine U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPI11G | > 1800 Glycine U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPI10G | > 1600 Glycine U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPI8G | > 1400 Glycine U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPIXG | > 1000 Glycine U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPIXT | > 2000 DEA U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPI3 | > 20 U/mg material | Bovine intestinal mucosa | Immunoassay |
| | ALPI6G | > 700 Glycine U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPI8T | > 2600 DEA U/mg protein | Bovine intestinal mucosa | Immunoassay |
| | ALPIS1 | > 1.5 U/mg Protein | Bovine intestinal mucosa | Immunoassay |
| | ALPIW1 | > 2 U/mg Protein | Bovine intestinal mucosa | Immunoassay |
| | ALPIW2 | < 15 U/mg Protein | Bovine intestinal mucosa | Immunoassay |
| Cancer / Tumour | CAT2F | > 11,700 U/mg material | Bovine Liver | Clinical Chemistry |
| | CATAN3F | > 4000 U/mg material | Aspergillus niger | Peroxide removal |
| Cholesterol Esterase | CE2 | > 35 U/mg material | Porcine Pancreas | Biosensor/Clinical Chemistry |
| | CE4F | > 100 U/mg material | Pseudomonas sp. | Biosensor/Clinical Chemistry |
| Cholesterol Oxidase | CO5F | > 12 U/mg material | Microorganism | Biosensor/Clinical Chemistry |
| Chymotrypsin | 031110BBI | > 5.0 μ Katal/mg | Bovine Pancreas | |
| Creatinase | CR1F | > 9 U/mg material | Recombinant Escherichia coli | Biosensor/Clinical Chemistry |
| Creatininase | CNN1 | > 500 U/mg material | Recombinant Escherichia coli | Biosensor/Clinical Chemistry |
| D-Amino Acid Oxidase | DOX2 | > 6000 U/g material | Porcine Kidney | |
| Deoxyribonuclease | 041160BBI | > 2500 Kunitz U/mg material | Bovine Pancreas | |
| Glucose Dehydrogenase | GLD1 | > 625 U/mg material | Microorganism | Biosensor/Clinical Chemistry |
| | GLD3 | > 300 U/mg material | Microorganism | Biosensor/Clinical Chemistry |
| Glucose Oxidase | GO2BS | > 180 U/mg material | Aspergillus niger | Biosensor/Clinical Chemistry/Urine Test Strips |
| | GO3A | ~ 360 U/mg protein | Aspergillus niger | Biosensor/Clinical Chemistry |
| | GO3B2 | ~ 360 U/mg protein | Aspergillus niger | Biosensor/Clinical Chemistry/Urine Test Strips |
| | GO3B3 | ~ 360 U/mg protein | Aspergillus niger | Biosensor/Clinical Chemistry |

| Product | Product Code | Activity | Source | Applications |
|--------------------------------|--------------|--------------------------------|---------------------------------|--------------------------------------|
| Glutamate Dehydrogenase | GDHB3 | > 40 U/mg Protein | Bovine Liver | Clinical Chemistry |
| | GDHB5 | > 40 U/mg Protein | Bovine Liver | Clinical Chemistry |
| | GDHB5G | > 40 U/mg Protein | Bovine Liver | Clinical Chemistry |
| Hyaluronidase | 081239BBI | > 400 U/mg material | Ovine testes | |
| | 081240BBI | > 500 U/mg material | Bovine testes | |
| | 081245BBI | > 350 U/mg material | Bovine testes | |
| | 081246BBI | > 1000 U/mg material | Bovine testes | |
| Intrinsic Factor | IF1 | > 95% purity | Porcine stomach pyloric section | Immunoassay |
| Lactate Dehydrogenase | LDHP2 | > 300 U/mg Protein | Porcine Heart | Clinical Chemistry |
| | LDHP2FS | > 250 U/mg Protein | Porcine Heart | Clinical Chemistry |
| Lipoxidase | LPX1-mu | > 200,000 U/mg material | Soybean | Biocatalysis |
| Malate Dehydrogenase | MDHP3 | > 1500 U/mg Protein | Porcine Heart | Clinical Chemistry |
| | MDHP3F | > 1500 U/mg Protein | Porcine Heart | Clinical Chemistry |
| | MDHP3G | > 1500 U/mg Protein | Porcine Heart | Clinical Chemistry |
| Mucopoly-saccharidase | 081237M08 | > 40 U/mg material | Bovine testes | |
| Mutarotase | MUR1 | > 5000 U/mg Protein | Porcine Kidney | Clinical Chemistry |
| Pepsin | PEP2 | > 2500 U/mg material | Porcine stomach mucosa | Protein hydrolysis |
| Peroxidase | 161451BBI | > 250 Pyrogallol U/mg | Horseradish Roots | Immunoassay/Clinical Chemistry |
| | 161453BBI | > 100 Pyrogallol U/mg material | Horseradish Roots | Clinical Chemistry/Urine Test Strips |
| | 161455BBI | > 60 Pyrogallol U/mg material | Horseradish Roots | Clinical Chemistry |
| | 161457BBI | > 200 Pyrogallol U/mg material | Horseradish Roots | Clinical Chemistry/Urine Test Strips |
| | APO/HRP4C | RZ < 0.05 | Horseradish Roots | Immunoassay |
| | HRP3C | > 150 U/mg material | Horseradish Roots | Clinical Chemistry |
| | HRP4 | > 250 U/mg material | Horseradish Roots | Immunoassay |
| | HRP4B | > 250 U/mg material | Horseradish Roots | Immunoassay |
| | HRP4C | > 250 U/mg material | Horseradish Roots | Clinical Chemistry |
| | HRP5 | > 75 U/mg material | Horseradish Roots | Immunoassay |
| Porcine Liver Esterase | PLE1F | > 75 U/mg material | Porcine Liver | Urine Test Strips |

ENZYME RANGE

| Product | Product Code | Activity | Source | Applications |
|--------------------------|--------------|------------------------------------|------------------------------|------------------------------|
| Ribonuclease | 181515BBI | > 100 U/mg material | Bovine pancreas | Molecular Biology |
| | RN1 | > 70 U/mg material | Bovine pancreas | Molecular Biology |
| | RN1F | > 70 U/mg material | Bovine pancreas | Molecular Biology |
| | RN2 | > 70 U/mg material | Bovine pancreas | Molecular Biology |
| | RN3 | ~ 90U/mg | Bovine pancreas | Molecular Biology |
| Sarcosine Oxidase | SO2F | > 20 U/mg material | Recombinant Escherichia coli | Biosensor/Clinical Chemistry |
| Superoxide Dismutase | SOD2 | > 3000 U/mg material | Porcine stomach mucosa | |
| Trypsin | 201553BBI | > 2500 U/mg material | Bovine Pancreas | |
| Trypsin/Chymotrypsin 1:1 | 161903BBI | > 1000:>1000 U/mg material | Bovine Pancreas | |
| Trypsin/Chymotrypsin 6:1 | 161905BBI | > 2200-2760: 365-460 U/mg material | Bovine Pancreas | |
| Trypsin Inhibitor | SOY1 | > 7000 BAEE U/mg material | Soybean | |
| | SOY2 | > 10,000 BAEE U/mg material | Soybean | |
| | SOY3 | > 20,000 BAEE U/mg material | Soybean | |
| Urease | URE2 | > 220 Nessler U/mg material | Jack Bean | Biosensor/Clinical Chemistry |
| | URE3 | > 1300 Nessler U/mg protein | Jack Bean | Biosensor/Clinical Chemistry |
| Uricase | U5 | > 4 U/mg material | Recombinant Escherichia coli | Biosensor/Clinical Chemistry |



CUSTOM DEVELOPMENT & MANUFACTURE OF ENZYMES

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

BBI 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
- + **Freeze drying** – capability of 49 - 420 litres per cycle
- + **Ultrafiltration** – volumes of 2,500 - 30,000 litres
- + **Quality control** – in-process analysis and monitoring, development of assay/test procedures
- + **Product handling/sampling** – we offer special packing according to customer specifications



FEASIBILITY

- + Small scale purification
- + Critical process parameters gained



DEVELOPMENT

- + Process optimisation
- + Intermediate scale-up



VERIFICATION

- + Routine protein analysis
 - Enzymes 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

MONOCLONAL ANTIBODIES

| Disease Area | Product Name | Product Code | Application | Capture/Detector |
|---------------------------|-----------------------------|--------------|-----------------|-----------------------------------|
| Anemia | Ferritin | BM210-P3A8 | ELISA | Detector |
| | Ferritin | MAB290P | ELISA | Capture / Detector (self-pairing) |
| Autoimmune / Inflammation | Lactoferrin | MAB232P | ELISA | Capture / Detector |
| | Lactoferrin | MAB233P | ELISA | Capture / Detector |
| | CRP (Recombinant Fab) | BR228-D4A3 | ELISA / Luminex | Detector |
| Bone Metabolism | Osteopontin | MAB222P | ELISA | Capture / Detector |
| | Osteopontin, C-terminal | MAB197P | ELISA / WB | |
| | Osteopontin, N-terminal | MAB193P | ELISA / WB | Capture / Detector |
| | Osteopontin, N-terminal | MAB194P | ELISA / WB | |
| | Osteopontin, N-terminal | MAB195P | ELISA / WB | |
| | Osteopontin, N-terminal | MAB196P | ELISA / WB | |
| | Parathyroid hormone | BM361-E4H3 | ELISA | Detector |
| | | | | |
| Cancer / Tumour | CA15-3 | BM236-K6A5 | ELISA / WB | Detector |
| | CA15-3 | BM236-V2G9 | ELISA / WB | Capture |
| | CA19-9 | BM238-G6C8 | ELISA / WB | Capture |
| | Free PSA | MAB296P | ELISA | Capture |
| | Osteopontin | MAB222P | ELISA | Capture / Detector |
| | Osteopontin, C-terminal | MAB197P | ELISA / WB | |
| | Osteopontin, N-terminal | MAB193P | ELISA / WB | Capture / Detector |
| | Osteopontin, N-terminal | MAB194P | ELISA / WB | |
| | Osteopontin, N-terminal | MAB195P | ELISA / WB | |
| | Osteopontin, N-terminal | MAB196P | ELISA / WB | |
| | PSA | MAB291P | ELISA | Capture / Detector |
| | PSA | MAB292P | ELISA | Capture / Detector |
| | S100 Beta (Recombinant Fab) | BR332-F5H7 | ELISA | |
| | | | | |
| | | | | |
| | Cardiac | D-Dimer | MAB284P | ELISA |
| D-Dimer | | MAB285P | ELISA | Capture |
| D-Dimer clone 1D2 | | BM243-1D2 | ELISA / LF / WB | ELISA = Detector, LF = Capture |
| D-Dimer clone 3B6 | | BM243-3B6 | ELISA / LF / WB | ELISA = Capture, LF = Detector |
| Galectin 3 | | BM451-K7H2 | ELISA / WB | Detector |
| Galectin 3 | | BM451-N8E8 | ELISA / WB | Capture |
| Galectin 3 | | BM451-V7G5 | ELISA / WB | Detector |
| Myeloperoxidase | | MAB208P | ELISA | Capture |
| Myeloperoxidase | | MAB209P | ELISA | Detector |
| ST2 (Recombinant Fab) | | BR139-S7B7 | ELISA / Luminex | Capture |
| ST2 (Recombinant Fab) | | BR139-T3G5 | ELISA / Luminex | Capture |
| ST2 (Recombinant Fab) | | BR139-V8D4 | ELISA / Luminex | Detector |
| Troponin I | | BM322-M4E5 | ELISA / LF / WB | Detector |
| Troponin I | | MAB283P | ELISA | Detector |

| Disease Area | Product Name | Product Code | Application | Capture/Detector |
|----------------|---|--------------|---------------------|--------------------|
| Control/Tags | Glutathione S-Transferase (GST) | MAB241P | WB | |
| | His-tag | MAB230P | ELISA / WB | |
| | Maltose Binding Protein (MBP) | MAB231P | ELISA / WB | |
| | Polyethylene glycol (PEG) | MAB206P | ELISA | |
| | Polyethylene glycol (PEG) Rat | MAB207P | ELISA / WB | |
| Diabetes | HbA1c | BM300-F7C2 | ELISA / LF / WB | Detector |
| | HbA1c | BM300-H2B1 | ELISA / LF / WB | Detector |
| | Haemoglobin | BM302-S6B9 | ELISA / LF / WB | Capture |
| | Haemoglobin | BM302-F1B4 | ELISA / LF | Capture |
| Fertility | AMH | BM459-P2B4 | CLIA / ELISA / LF | Capture |
| | AMH | BM459-S4E8 | CLIA / ELISA / LF | Detector |
| | Beta HCG | MAB107P | ELISA | |
| | Free beta HCG | BM317-T7H6 | ELISA | Capture |
| | Free beta HCG | BM317-S8D2 | ELISA | Detector |
| | Human Chorionic Gonadotropin-Beta (hCG-Beta) | MAB106P | ELISA / WB | |
| | Human Chorionic Gonadotropin-Intact (hCG) | MAB105P | ELISA / WB | |
| | | | | |
| Growth Factors | IGFBP3 | BM396-P6F9 | ELISA | Capture |
| | IGFBP3 | BM396-V3C7 | ELISA | Detector |
| Hormones | Beta HCG | MAB107P | ELISA | |
| | Cortisol | MAB215P | ELISA | |
| | Free beta HCG | BM317-S8D2 | ELISA | Detector |
| | Free beta HCG | BM317-T7H6 | ELISA | Capture |
| | Human Chorionic Gonadotropin-Beta (hCG-Beta) | MAB106P | ELISA | |
| | Human Chorionic Gonadotropin-Intact (hCG) | MAB105P | ELISA | |
| | Progesterone | MAB234P | ELISA (competitive) | |
| | Progesterone | MAB235P | ELISA (competitive) | |
| | Progesterone | MAB286P | ELISA (competitive) | |
| | Thyroid Stimulating Hormone- Beta (hTSH-beta) | MAB130P | ELISA | Capture / Detector |
| | | | | |

MONOCLONAL ANTIBODIES

| Disease Area | Product Name | Product Code | Application | Capture/Detector |
|------------------------------|-----------------------|--------------|-----------------------|-----------------------------------|
| Immunoglobulins (anti-Human) | IgA | MAB217P | ELISA | |
| | IgG1 | MAB146P | ELISA | |
| | IgG2 | MAB220P | ELISA | |
| | IgG3 | MAB221P | ELISA | |
| | IgG4 Fc | MAB154P | ELISA / IHC / WB | |
| | IgG Fc | MAB218P | ELISA | |
| | IgG Heavy Chain | MAB142P | ELISA / IHC / WB | |
| | Ig Kappa Light | MAB199P | ELISA / WB | |
| | Ig Lambda Light Chain | MAB219P | ELISA / WB | |
| | IgM | MAB216P | ELISA | |
| Infectious Disease | Adenovirus | MAB604P | ELISA / IFA / LF / WB | Capture |
| | Adenovirus | MAB605P | ELISA / IFA / LF / WB | Tracer |
| | B. anthracis | BB1008 | ELISA / LF | |
| | Borrelia burgdorferi | MAB746P | ELISA / IFA | |
| | Brucella | BB1071 | ELISA / LF | |
| | Brucella | BB1063 | ELISA / LF | |
| | Burkholderia | BB1158 | ELISA / LF | |
| | Burkholderia | BB1159 | ELISA / LF | |
| | Campylobacter jejuni | MAB229P | ELISA | |
| | Campylobacter jejuni | MAB840P | ELISA / WB | |
| | Campylobacter jejuni | MAB841P | ELISA / WB | |
| | Campylobacter jejuni | MAB842P | ELISA / WB | |
| | Campylobacter spp. | BM465-N6G1 | ELISA / LF / WB | Capture & Detector (self-pairing) |
| | C. difficile GDH | MAB294P | ELISA | Capture |
| | C. difficile GDH | MAB295P | ELISA | Detector |
| | C. difficile toxin B | BM347-N4A8 | ELISA / LF / WB | Capture |
| | C. difficile toxin B | BM347-T4G1 | ELISA / LF / WB | Detector |
| | Chikungunya Virus | MAB243P | ELISA / WB | |
| | Chikungunya Virus | MAB244P | ELISA / WB | |
| | Chikungunya Virus | MAB245P | ELISA | |
| | Coxiella | BB1214 | ELISA / LF | |
| | Dengue NS1 subtype 2 | BM339-P3D8 | LF | Capture / Detector |
| | Dengue NS1 subtype 2 | BM339-P6C6 | LF | Capture / Detector |
| | Dengue NS1 subtype 2 | BM339-T3H2 | LF | Capture / Detector |
| | Ebola Zaire | BM431-V1D1 | LF / WB | |
| | E. coli Serotype O157 | MAB770P | ELISA / IFA | |
| | HIV-1 p24 | MAB246P | ELISA / LF | Detector |
| | HIV-1 p24 | MAB247P | ELISA | Capture / Detector |
| | HIV-1 p24 | MAB248P | ELISA / LF | Detector |
| | HIV-1 p24 | MAB249P | ELISA / LF | Capture |
| | H. pylori | BM345-M5F6 | LF | Capture / Detector |
| | H. pylori | MAB807P | ELISA / IFA / WB | |
| | Influenza A | MAB722P | ELISA / IFA / IHC | Capture |
| | Influenza A | MAB803P | ELISA / IFA | Detector |
| | Influenza B | MAB7042P | ELISA / IFA / ICT | |
| | Leptospira | BM353-N8A9 | LF | |
| | Listeria spp | BM401-T7B6 | LF | Capture |

| Disease Area | Product Name | Product Code | Application | Capture/Detector |
|---|---|--------------|-----------------------|---------------------------------|
| Infectious Disease | Norovirus | MAB224P | ELISA | |
| | Norovirus | MAB225P | ELISA | |
| | Norovirus | MAB226P | ELISA | |
| | Norovirus | MAB227P | ELISA | |
| | Norovirus | MAB228P | ELISA | |
| | Norovirus | MAB242P | ELISA | |
| | Norovirus | MAB287P | ELISA | |
| | Norovirus | MAB288P | ELISA | |
| | Norovirus | MAB289P | ELISA | |
| | Norovirus GI and GII | BM349-G1G1 | LF | Capture |
| | Norovirus GII | BM349-H1C3 | LF | Capture |
| | Respiratory Syncytial Virus (RSV) | MAB601P | ELISA / IFA / LF / WB | Capture / Detector |
| | Respiratory Syncytial Virus (RSV) | MAB602P | ELISA / IFA / LF / WB | Capture / Detector |
| | Respiratory Syncytial Virus (RSV) | MAB603P | ELISA / IFA / LF / WB | Detector |
| | Rift Valley Fever Virus | MAB239P | ELISA | Capture / Detector |
| | Rift Valley Fever Virus | MAB240P | ELISA | Capture / Detector |
| | Rotavirus | MAB606P | ELISA / WB | Capture / Detector |
| | Rotavirus | MAB831P | ELISA / IHC | Capture |
| | Rotavirus | MAB833P | ELISA / IHC | Detector |
| | Streptococcus Group A Rabbit | MAB887P | ELISA | Capture/Detector (self pairing) |
| Y. pestis | BB1190 | ELISA / LF | | |
| Zika NS1 | MAB315P | ELISA | Capture | |
| Zika NS1 | MAB316P | ELISA | Capture | |
| Zika NS1 | MAB317P | ELISA | Capture | |
| Zika NS1 | MAB318P | ELISA | Detector | |
| Zika NS1 | MAB319P | ELISA | Capture | |
| Renal | Cystatin C | MAB236P | ELISA | Capture |
| | Cystatin C | MAB237P | ELISA | Capture |
| | Cystatin C | MAB238P | ELISA | Detector |
| Sepsis | Procalcitonin | BM448-H9F1 | ELISA | Capture / Detector |
| | Procalcitonin | BM448-K8C7 | ELISA | Capture |
| | Procalcitonin | BM448-V4A1 | ELISA | Capture / Detector |
| Thyroid | T3 | MAB124P | ELISA (competitive) | |
| | T3 | BM440-P3H6 | ELISA | Capture |
| | Thyroid Stimulating Hormone- Alpha (hTSH-alpha) | MAB132P | ELISA | Capture / Detector |
| | Thyroid Stimulating Hormone- Beta (hTSH-beta) | MAB128P | ELISA | Detector |
| Thyroid Stimulating Hormone- Beta (hTSH-beta) | MAB130P | ELISA | Capture / Detector | |
| Veterinary | Equine LH Alpha Subunit | MAB204P | ELISA / WB | |
| | Equine LH Beta Subunit | MAB202P | ELISA / WB | |
| | Equine LH Beta Subunit | MAB203P | ELISA / WB | |
| | Streptococcus equi subsp. equi | MAB211P | ELISA | Capture / Detector |
| | Streptococcus equi subsp. equi | MAB212P | ELISA | Capture / Detector |

EXPLOSIVES

| Marker | Product Code | Application |
|--------|--------------|-------------|
| PETN | EW75A | ELISA / LF |
| RDX | EW75B | ELISA / LF |
| TNT | EW75C | ELISA / LF |

MOUSE MONOCLONALS

Recommended matched pairs for immunoassays

| Marker | Application | Paired Capture Ab | Paired Detector Ab |
|--|------------------|---------------------------|---------------------------|
| Adenovirus | ELISA / LF | MAB604P | MAB605P |
| AMH | ELISA / LF | BM459-P2B4 | BM459-S4E8 |
| C.difficile Glutamate Dehydrogenase (GDH) | ELISA | MAB294P | MAB295P |
| C. difficile toxin B | LF | BM347-N4A8 | BM347-T4G1 |
| CA15-3 | ELISA | BM236-V2G9 | BM236-K6A5 |
| Campylobacter | ELISA / LF | BM465-N6G1 (self pairing) | BM465-N6G1 (self pairing) |
| Cystatin C | ELISA | MAB236P | MAB238P |
| Cystatin C | ELISA | MAB237P | MAB238P |
| D-dimer | ELISA | BM243-3B6 | BM243-1D2 |
| D-dimer | ELISA | MAB285P | MAB284P |
| D-dimer | LF | BM243-1D2 | BM243-3B6 |
| Dengue NS1 subtype 2 | LF | BM339-T3H2 | BM339-P3D8 |
| Dengue NS1 subtype 2 | LF | BM339-T3H2 | BM339-P6C6 |
| Equine Luteinising Hormone (LH) Beta Subunit | ELISA / WB | MAB202P | MAB204P |
| Equine Luteinising Hormone (LH) Beta Subunit | ELISA / WB | MAB203P | MAB204P |
| Ferritin | ELISA | MAB290P (self pairing) | MAB290P (self pairing) |
| Free beta HCG Monoclonal Antibody | ELISA | BM317-T7H6 | BM317-S8D2 |
| Free Prostate Specific Antigen (PSA) | ELISA | MAB296P | MAB292P |
| Galectin 3 | ELISA | BM451-N8E8 | BM451-K7H2 |
| Galectin 3 | ELISA | BM451-N8E8 | BM451-V7G5 |
| HbA1c | ELISA | BM302-F1B4 | BM300-F7C2 |
| HbA1c | ELISA / LF | BM302-F1B4 or BM302-S6B9 | BM300-F7C2 |
| Helicobacter pylori | ELISA / IFA / WB | MAB807P | MAB807P |
| HIV-1 p24 | ELISA | MAB249P | MAB246P |
| HIV-1 p24 | ELISA | MAB247P | MAB248P |
| HIV-1 p24 | ELISA | MAB249P | MAB247P |
| HIV-1 p24 | ELISA | MAB247P | MAB249P |
| IGFBP3 | ELISA | BM396-P6F9 | BM396-V3C7 |

| Marker | Application | Paired Capture Ab | Paired Detector Ab |
|-----------------------------------|-------------|-------------------|--------------------|
| Influenza A | ELISA | MAB722P | MAB803P |
| Influenza A | LF | MAB722P | MAB722P |
| Influenza B | ELISA | MAB7042P | MAB7042P |
| Lactoferrin | ELISA | MAB232P | MAB233P |
| Lactoferrin | ELISA | MAB233P | MAB232P |
| Myeloperoxidase | ELISA | MAB208P | MAB209P |
| Myeloperoxidase | ELISA | MAB209P | MAB209P |
| Norovirus | ELISA | Please enquire* | |
| Osteopontin | ELISA | MAB222P | MAB193P |
| Osteopontin | ELISA | MAB193P | MAB222P |
| Procalcitonin | ELISA | BM448-K8C7 | BM448-V4A1 |
| Procalcitonin | ELISA | BM448-V4A1 | BM448-H9F1 |
| Procalcitonin | ELISA | BM448-H9F1 | BM448-V4A1 |
| Prostate Specific Antigen (PSA) | ELISA | MAB292P | MAB291P |
| Prostate Specific Antigen (PSA) | ELISA | MAB291P | MAB292P |
| Respiratory Syncytial Virus (RSV) | ELISA / LF | MAB601P | MAB601P |
| Respiratory Syncytial Virus (RSV) | ELISA / LF | MAB601P | MAB602P |
| Respiratory Syncytial Virus (RSV) | ELISA / LF | MAB602P | MAB603P |
| Rift Valley Fever Virus | ELISA | MAB240P | MAB239P |
| Rift Valley Fever Virus | ELISA | MAB239P | MAB240P |
| Rotavirus | ELISA / LF | MAB606P | MAB606P |
| Rotavirus | ELISA | MAB831P | MAB833P |
| ST2 | ELISA | BR139-S7B7 | BR139-V8D4 |
| ST2 | ELISA | BR139-T3G5 | BR139-V8D4 |
| Streptococcus equi subsp. Equi | ELISA | MAB212P | MAB211P |
| Streptococcus equi subsp. Equi | ELISA | MAB212P | MAB212P |
| Streptococcus equi subsp. Equi | ELISA | MAB211P | MAB212P |
| Streptococcus Group A Rabbit | ELISA / LF | MAB887P | MAB887P |

POLYCLONAL ANTIBODIES

| Disease Area | Biomarker | Product Code | Species Raised In |
|--------------|---|--------------|-------------------|
| Anemia | Ferritin | BP230-3 | Rabbit |
| Control/Tags | Bromodeoxyuridine-5 (BrdU) | PAB105P | Sheep |
| | Biotinylated Bromodeoxyuridine-5 (BrdU) | PAB105B | Sheep |
| | HRP-conjugated Bromodeoxyuridine-5 (BrdU) | PAB105H | Sheep |

ANTIBODY DEVELOPMENT

BBI Solutions offers expert partnership in the development of monoclonal or polyclonal antibodies, cGMP purification and production of antibodies.

An industry leading advantage, 'MultiPure' allows customers to see assay performance data eight weeks sooner than typical developments and use that data to inform clone selection.

Development & production

- + Monoclonal antibody development
- + Polyclonal antibody development
- + In vitro antibody production

Purification

- + Protein A purification
- + Protein G purification
- + Low endotoxin purification

Characterisation

- + ELISA
- + Western Blot
- + SDS-PAGE
- + Isoelectric Focusing (IEF)
- + Endotoxin testing
- + Matched pair evaluation
- + SEC
- + Polyclonal antibody development
- + In vitro antibody production

FEASIBILITY



Antigen Analysis

Option to receive a custom report, prepared by an immunologist, to identify the right antigen strategy for any goal.



Detailed Project Plan

Identify goals, reagents, screening strategies and set contingency plans to ensure timely development.



MultiPure

Generate up to 1mg discovery-grade purified antibodies from fusion candidates during hybridoma development to select clones based on end use performance.



Characterisation Assays

Characterise antibody candidates beyond standard indirect ELISA screening, so only the right antibodies go to subcloning.



Technical Support

Hands on support from project managers, technical sales team and immunology experts at every project milestone.

Contact BBI Solutions today to develop the right antibodies for any application:

Phone: +44 (0)1495 363 000
Email: sales@bbisolutions.com

Accelerate Timelines

Timely development is a high priority for most antibody development customers. Thorough project planning, rapid immunisation protocol (RIMMS), and efficient data analysis at every project milestone, work together to accelerate project timelines. When goals change during the course of development, planning and communication allow BBI to be agile in making decisions and change the pathway to allow a project to be kept on track, meet new goals, and get the right result quicker.

A typical project plan*

| | 1-2 WEEKS | 4 WEEKS | 2-3 MONTHS | | 6-8 WEEKS | 1-2 WEEKS | |
|--------------|---|---|--|--|---|---|--|
| PHASE | Planning | Immunisation | Fusion | General discovery reagents | Advanced screening | Subcloning & productions | Monoclonal assays |
| ACTIVITY | Antigen review Project planning | RIMMS protocol Serum screening | Primary screening Scale-up and cryopreservation of fusion product selections Secondary screening | MultiPure technology offers novel early access to purified samples | Matched pair evolution Blocking assays Matrix evaluation | Top-ranked fusion products subcloned Monoclonal cell line cryopreservation cGMP in vitro production | Analytical characterisation of antibody(s) Fit-for-use performance evaluation |
| DELIVERABLES | + Antigen analysis report + Project plan | + Serum titre data + Boosting strategy (if needed) | + Screening data + Banked cryo-vitals + Supernatant | + Discovery-scale purified antibody + Biotin-labelled conjugates (optional) | + Advanced screening report + Subcloning candidates identified | + Screening data + Assessment of stability + Pilot production recommendations | + Screening data + Assessment of stability + Performance characterisation report summary |

* Representative

WHAT YOU CAN EXPECT FROM BBI

ALP is the other enzyme of choice for conjugates in immunoassays. It is often used as an alternative to HRP when a more linear reaction rate is required over a wide range of values. BBI's ALP112G is our highest specific activity product and best-selling line. Its performance has been proven in assays manufactured by some of the largest immunoassay and IVD companies.

Advanced screening capabilities

MultiPure allows customers to select clones based on specificity, sensitivity, matched pair compatibility, matrix compatibility, diversity and native recognition.

cGMP manufacturing standards

cGMP in vitro antibody manufacturing and custom production options to secure long term supply management.

Knowledge and experience

The antibody technical team brings over 27 years of deep expertise in immunology, antibody and immunoassay development to every project.

Unparalleled customer communication

Customers are informed at all project stages of the data and analysis they need to make goal driven decisions.

ANALYTE DEPLETED SERUM

| Product Description | Application | Capture/Detector |
|---|-------------|---------------------|
| Immunoglobulin IgG depleted processed serum | SF142-7 | Defibrinated Plasma |
| T3/T4 depleted processed serum | SF231-7 | Defibrinated Plasma |
| Vitamin D depleted processed serum | SF504-7A | Defibrinated Plasma |
| Immunoglobulin depleted serum | SF505-2 | Off-the-clot Serum |
| Testosterone depleted processed serum | SF518-7A | Defibrinated Plasma |

Custom options and development products available.

Examples include Iron Depleted, Insulin Depleted, Ferritin Depleted, Hormone Depleted, TSH/T3/T4 Depleted.

PATIENT SAMPLES

| Product Description | Product Name | Prod. Code | Matrix Available | Source |
|---------------------|-------------------------|------------|--------------------|------------|
| Pregnancy/Fertility | Pregnancy Serum Samples | SG382-2 | Off-the-clot Serum | Europe/USA |

Minimum order applies.

DISEASE STATE PLASMA

| Product Description | Product Name | Prod. Code | Matrix Available | Source |
|-----------------------------|---|------------|----------------------------|------------|
| Allergy | IgE Positive Citrate Plasma | SH234-7 | Defibrinated Plasma | USA |
| Autoimmune/ Inflammation | Antiphospholipid Syndrome Positive Citrate Plasma | SH153-4 | Citrate Plasma | USA |
| | Rheumatoid Factor Positive Citrate Plasma | SH155-4 | Citrate Plasma | Europe/USA |
| Infectious Disease | Toxoplasma IgG Positive Citrate Plasma | SH240-4 | Citrate Plasma | Europe |
| | Cytomegalovirus IgG Positive Citrate Plasma | SH242-4 | Citrate Plasma | Europe |
| | Synthetic Rubella IgM Serum | SH252-9 | Spiked Defibrinated Plasma | Europe |
| | HBsAg Positive Plasma | SH256-4 | Citrate Plasma | Europe |
| | Hepatitis B Core IgM Positive Citrate Plasma | SH258-4 | Citrate Plasma | USA |
| | Cytomegalovirus IgM Positive Citrate Plasma | SH272-4 | Citrate Plasma | Europe |
| | Toxoplasma IgM Positive Citrate Plasma | SH275-4 | Citrate Plasma | Europe |
| | HIV-2 Positive Citrate Plasma | SH316-4 | Citrate Plasma | USA |
| Pregnancy / Fertility | Third Trimester Pregnancy Serum | SH284-2 | Off-the-clot Serum | Europe |
| | First Trimester Pregnancy Serum | SH285-2 | Off-the-clot Serum | Europe |
| Thyroid | Anti-Tg Positive Processed Serum | SH483-7 | Defibrinated Plasma | Europe |
| | Anti-TPO Positive Processed Serum | SH484-7 | Defibrinated Plasma | Europe |

NANOPARTICLES

We have been supplying high quality gold nanoparticles and fully optimised gold conjugates for over 30 years, enabling the development of robust, reliable assays and consistent results time after time. Providing a uniform shape and standard size, with a CV of <8%, our gold colloid is available in a variety of sizes from 20nm - 80nm and is available in batch volumes up to 350L.

| Particle Type | Size | Product Code | Available Sizes |
|--------------------|------------------------|-----------------|------------------------|
| Gold Nanoparticles | 5nm | EM.GC5 | 20ml, 100ml, 1l |
| | 10nm | EM.GC5 | 20ml, 100ml, 1l |
| | 15nm | EM.GC5 | 20ml, 100ml, 1l |
| | 20nm | EM.GC5 | 20ml, 100ml, 1l |
| | 30nm | EM.GC5 | 20ml, 100ml, 1l |
| | 40nm | EM.GC5 | 20ml, 100ml, 500ml, 1l |
| | 50nm | EM.GC5 | 20ml, 100ml, 1l |
| | 60nm | EM.GC5 | 20ml, 100ml, 1l |
| | 80nm | EM.GC5 | 20ml, 100ml, 1l |
| | 100nm | EM.GC5 | 20ml, 100ml, 1l |
| | 150nm | EM.GC5 | 20ml, 100ml, 1l |
| | 200nm | EM.GC5 | 20ml, 100ml, 1l |
| | 250nm | EM.GC5 | 20ml, 100ml, 1l |
| | 20nm, 40nm, 60nm, 80nm | GCIKITDIAG Plus | 4x100ml |
| | 20nm, 40nm, 60nm, 80nm | GCIKITDIAG | 4x20ml |

Our High OD Gold nanoparticles are available as 20nm and 40nm and at concentrations of OD5 and OD10.

Why BBI?

Used in over 400 million assays every year, our gold manufacturing technique guarantees:

- + **Uniformity** with $\leq 5\%$ odd shapes and a CV of $\leq 8\%$, the uniform shape and size of BBI gold ensures even antibody binding, giving reliable results in your assay
- + **High stability** – a minimum one year shelf life ensures a settled test manufacturing regime, saving you time and wastage
- + **Scalability** – our batch sizes go up to 340L (40nm) to ensure you have continuous supply
- + **Quality** – BBI gold must pass strict quality procedures before it's released to our customers, guaranteeing impressive performance characteristics at scale

BBI Quality

BBI's unique manufacturing technique allows for the production of large batches of gold to a high level of reproducibility of size, dispersion and shape. This ensures a firm foundation for conjugation and peace of mind that your rapid assay will provide reliable results. This is not the case for all gold nanoparticles.

BBI 40nm Gold



Competitor 40nm Gold



GOLD CONJUGATES

| Conjugate Type | Product Name | Product Code** |
|------------------------------|---------------------------------|---------------------|
| Anti-Biotin Conjugates | Monoclonal anti biotin 40nm | BA.MAB40 |
| | Goat anti biotin | BA.GAB20 / BA.GAB40 |
| Fertility Conjugates | Anti-beta hCG* | BA.HCG40 |
| | Anti-LH* | BA.LH40 |
| Anti-Human Conjugates | Protein A | BA.PAG20 / BA.PAG40 |
| | Goat anti human IgG Fc fragment | BA.GAH40 |
| | Goat anti human IgA | BA.GAHA40 |
| Control lines & Anti-species | Chicken IgY* | CONT.CHICK |
| | Goat anti-rabbit IgG | BA.GAR40 |
| | Goat anti-mouse | BA.GAM40 |
| Other Conjugates | BSA conjugate | BA.BSA40 |
| Capture Reagents | Polystreptavidin 200 | 01041470Z |
| | Polystreptavidin 350 | 01041049L |

* Matched pair available on request.

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



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



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

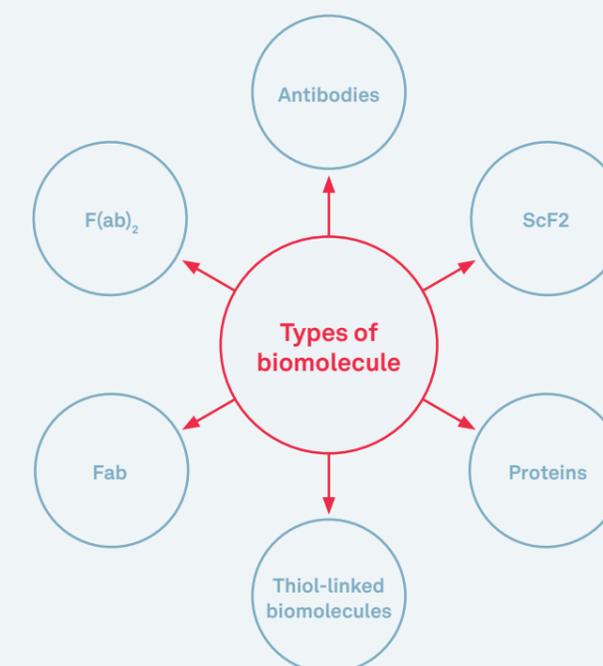
DESIGNED TO MEET YOUR INDIVIDUAL NEEDS

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)1495 363 000
sales@bbisolutions.com

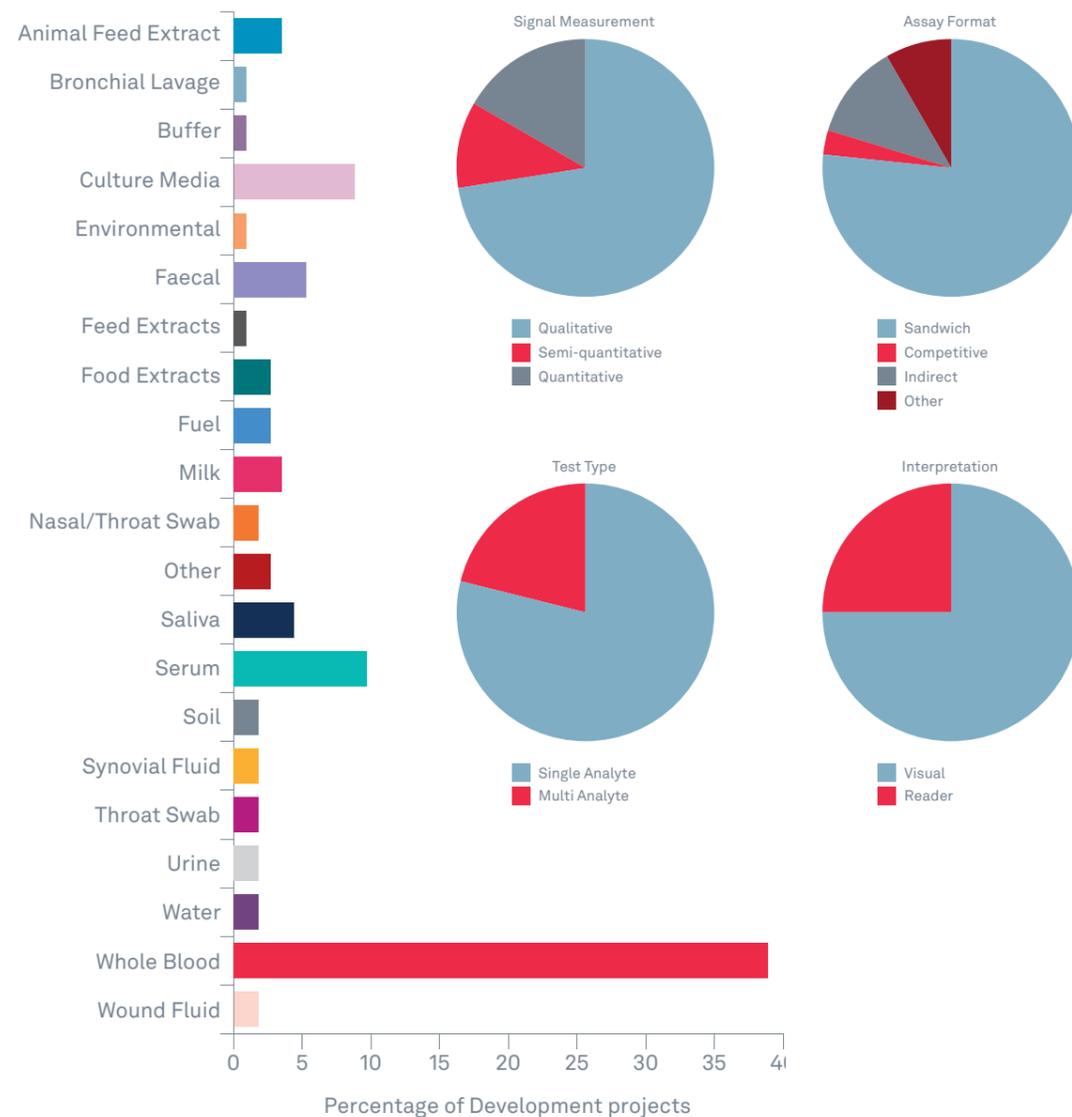


LATERAL FLOW ASSAY DEVELOPMENT

Are you looking to outsource your lateral flow test development? At BBI Solutions we understand that getting a fast, accurate result is critical.

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.



Market segments

Our experience has been gained across multiple sectors including:

- + Human Clinical
 - Lab based
 - Point of care
 - Remote
- + Agricultural
- + Animal Diagnostics
- + Environmental
- + Drugs of Abuse
- + Food Safety
- + Defence
- + Consumer Healthcare

Within the human clinical IVD marketplace we have experience of working with multiple analytes including; HIV, TB, Flu A and B, Calprotectin, Legionella and Progesterone. In addition, we have developed over 25 biodefence assays for a variety of customers.

A dedicated cross-functional team of scientists works exclusively on all phases of your project from Feasibility, Optimisation, to Verification and Validation. At the end of the development cycle, we will hand over the design history file so that you fully 'own' your test. Depending on the complexity of the assay, a typical development programme for a standard IVD will work as follows:

A typical project plan*

| | 1 MONTH | 5 MONTHS | 5 MONTHS | 4 MONTHS | |
|--------------|---|---|---|--|--|
| PHASE | Proof of principle | Feasibility | Optimisation and characterisation | Validation | Manufacture |
| ACTIVITY | Exploration of initial idea and theoretical viability | Collating customer requirements and investigation of formulations and processes | Characterisation and selection of final materials, formulation and processes. Transfer to manufacture | Full verification and validation of manufacturing processes to ensure assay robustness | Opportunity to implement manual, semi automated or automated solutions (scale dependent) |
| DELIVERABLES | + Clear pathway identified | + A prototype assay | + An optimised assay and pilot batches | + A prototype assay | + A prototype assay |

* Representative

LATERAL FLOW ASSAY 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
- + **Quality system certification** – we're certified to the world recognised Quality System for Medical Device and IVD Manufacturers, ISO 13485 and have experience working on FDA projects



NOVARUM™ MOBILE DIAGNOSTIC PLATFORM

BBI's Lateral Flow Test Interpretation Capabilities

All assay development is driven by the end users' needs which includes how the test is interpreted. Most tests developed are still visually read, but BBI Solutions has a wealth of reader experience from our own Novarum™ innovative smartphone diagnostic platform for remote or in-field testing to the leading brands of lab based lateral flow readers, as well as working with our customers' own reader designs.

Novarum™ Smartphone Diagnostic Platform

Mobile health (mhealth) technology is growing exponentially, creating new opportunities for pharmaceutical and diagnostic companies to shape the future of digital healthcare. Recognising the increasing convergence of mobile phone disruption within point of care testing and the shift towards decentralised healthcare, BBI Solutions acquired leading smartphone diagnostics specialist Novarum DX.

What does the Novarum Smartphone Technology Offer?

Novarum leverages mobile connectivity and intuitive app development to transform a smartphone into a point of care work flow management platform that enhances the value of lateral flow at the point of care. Using Novarum™ patented image capture technology provides confidence in test results and prevents user errors by providing clear guided step-by-step instructions. Simple, efficient and accurate testing to empower end-users. This next generation technology can help address the key issues required to achieve CLIA waiver status, making your test more widely available and increasing your market share, at the same time as creating better patient outcomes.



KEY BENEFITS



Help at-risk groups to access regular healthcare from the comfort of home



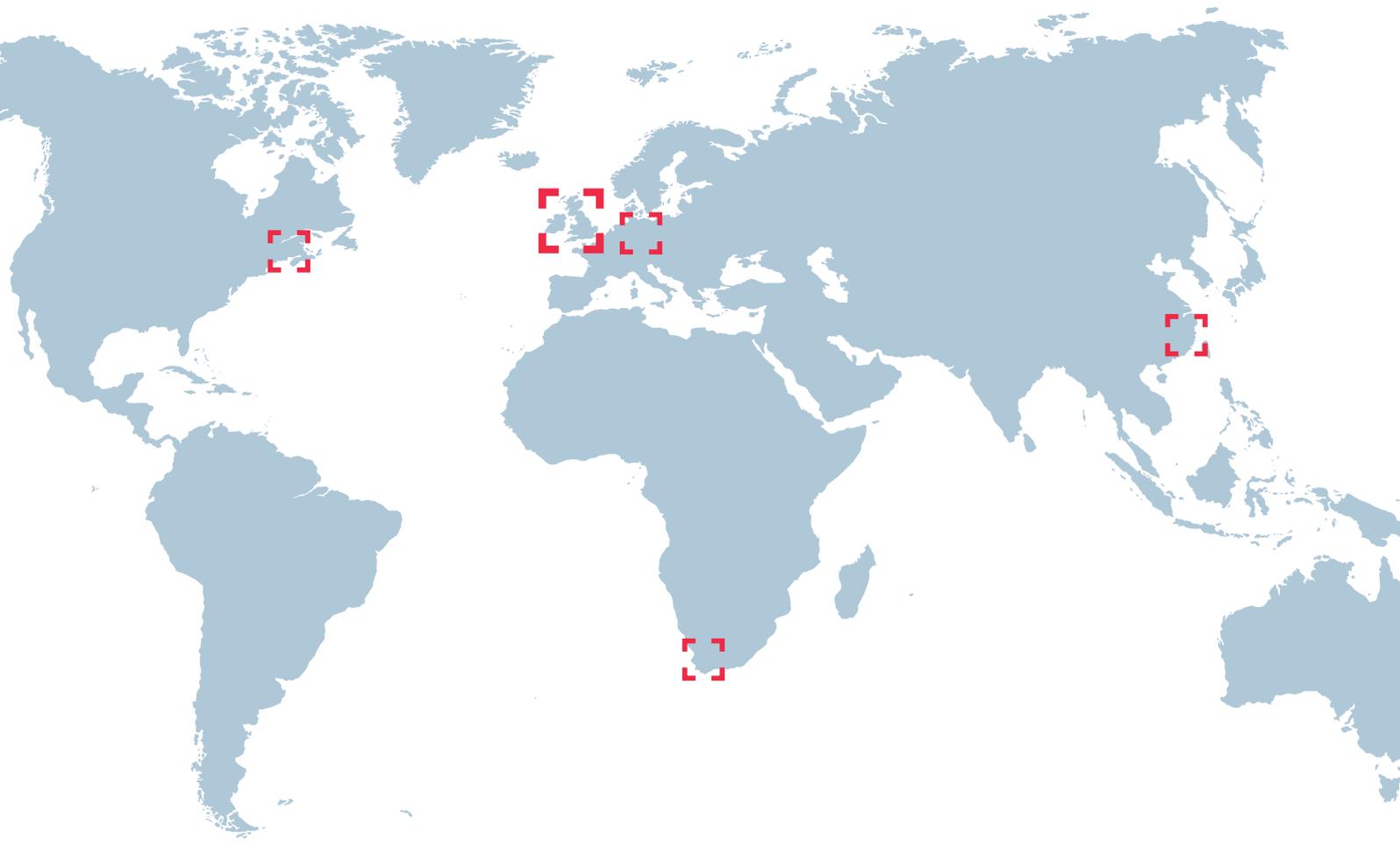
Reduce test error risk with simple instructions which facilitate correct self-testing



Support technician fieldwork with infectious disease diagnosis and tracking from remote locations



Quick and accurate results of lab-quality available from the point of care



**Get in touch to arrange a sample
or find out more about any of our
products and services**

info@bbisolutions.com

Int: +44 (0)1495 363 000

USA: +1 207-797-5454

China: +86 (0)21 6104 2216

www.bbisolutions.com

