NHS Blood and Transplant Reagents
- meeting your serology needs

**Cells for antibody screening & identification**

2-cell screen
Meets the current UK & European guideline requirements; OR1R1 & OR2R2
cells homozygous for major antigens, Rh, Fy, Jk, MNS

3 cell screen
As for the 2-cell screen but includes Cw & Kpa antigens, although these are
not guideline requirements, and an additional Orr cell

rr screening cells
These are produced especially for use when testing antenatal patients post anti-D Ig injections.
These D negative cells contain all the other major antigens with homozygous expression in order
to exclude the presence of other significant antibodies. There is an additional subset of an Or’r
and Or”r also available to investigate the presence of anti-C and anti-E respectively

Antibody identification panels
Two 10 cell panels, both enzyme and non-enzyme treated panels are provided.

These cells are provided in the following formats:

<table>
<thead>
<tr>
<th>Format</th>
<th>2 cell screen</th>
<th>3 cell screen</th>
<th>rr screening cells</th>
<th>r’r, r’r subset</th>
<th>ID Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>3% in Alsevers (PR101)</td>
<td>0.8% in CellStab (PR102)</td>
<td>0.8% in CellMedia (PR103)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3% in Alsevers (PR121)</td>
<td>0.8% in CellStab (PR122)</td>
<td>0.8% in CellMedia (PR123)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8% in CellStab (PR106)</td>
<td>0.8% in CellMedia (PR108)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8% in CellStab (PR107)</td>
<td>0.8% in CellMedia (PR109)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3% in Alsevers (PR141/144)</td>
<td>3% in Alsevers (PR 151/154) enzyme treated</td>
<td>0.8% in CellStab (PR142/143)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8% in CellStab (PR142/143)</td>
<td>0.8% in CellMedia (PR162/163)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8% in CellStab (PR152/153) enzyme treated</td>
<td>0.8% in CellMedia (PR172/173) enzyme treated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5% in LISP (PR146)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ABO & Rh control/reverse grouping cells**

Cells provided ready to use for reverse grouping and for use as controls

<table>
<thead>
<tr>
<th>Format</th>
<th>A1r (PR012), A2r (PR022), Brr (PR033), BR1r (PR034), OR1r (PR044)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3% in Alsevers</td>
<td>A1rr (PR014) Brr (PR035), OR1r (PR045)</td>
</tr>
<tr>
<td>0.8% in CellStab</td>
<td>A1rr (PR015) Brr (PR036), OR1r (PR046)</td>
</tr>
</tbody>
</table>
Products manufactured in CellStab and CellMedia are barcode labelled to be fully identifiable by the appropriate manufacturers automated technology and are validated for use on these systems.

**Products for Further investigations**

**Papain**

Red blood cells can be treated with papain and then used to test serum/plasma to enable identification of any alloantibodies. This material is provided frozen in 5mL volumes and has been standardised using the Azo-albumin technique. It is confirmed as fit for use using weak anti-Rh sera by standard serological techniques.

**ZZAP**

This product is intended to be used in the resolution of complex serological investigations involving IgG autoantibodies. ZZAP is a mixture of cysteine-activated proteolytic papain and dithiothreitol (DTT). It is used to enhance the dissociation of red cell-bound IgG by causing IgG molecules to lose their integrity so that the treated red cells can be used for absorptions. It is rsupplied frozen as a kit containing 0.2M DTT and 1% papain

**Products for Laboratory QC and QA**

**Weak antibody controls**

We provide a series of weak human antibodies, anti-Fy\(_a\), -c, -K, standardised against NBS screening cells to give a titre of approximately 4; the traditional weak anti-D (≤0.1 iu/mL) plus AB serum for use as a negative control.

Weak antibody controls – anti -Fy\(_a\) (PN044); anti-c (PN042); anti-K (PN043)
Weak anti-D control (≤0.1 iu/mL PN046)
AB serum (PN061)

**IgG coated, antiglobulin test control cells**

These are available for those still using a tube IAT.
IgG coated cells (PR092)

**Whole blood controls (PR051)**

These are intended for use in QC of automated systems. 2 samples of 33% cells in human plasma are provided; group A and group B, RhD positive and negative.
One sample contains weak anti-D and the other sample contains weak anti-K.

For your internal proficiency exercises why not use IPEx?

IPE\(_x\) (PN083) is available 6 times a year; usually consisting of 3 serum and 3 matching cell samples. The expected results for ABO and Rh typing, antibody screening and identification are emailed to a designated person. To make this a true ‘learning experience’ exercises are accompanied by some ‘CPD’ questions with answers and relevant references.

**In accordance with the EU IVDD directive, all applicable products offered by NHSBT Reagents will bear the CE mark.**

**Selection of material**

- Only donations from regular blood donors that have been fully tested to Red Book standards are used for reagent manufacture
- Donations are selected which match our standard national specifications. These comply with or exceed Red Book and European Common Technical Specifications

**Manufacturing process**

- All products are manufactured following GMP & IVDD requirements
- The components used in manufacture, eg diluents, are all tested before use
- In-process checks during the production cycle ensure consistency of the final product
The bottling areas are environmentally monitored to ensure the aseptic techniques are not compromised
Line clearance techniques are employed to prevent cross contamination of products

Pre-release
- All products are placed in quarantine until pre-release testing performed
- Serological testing of the bottled product includes repeat phenotyping & testing with weak antibodies
- Bottles are also checked for the accuracy of filling & labelling

Post-release
- Further checks are made on or just after the expiry to assure products remain ‘fit-for-use’
- Any complaints are fully investigated & recorded
- Defective bottles are replaced & a system is in place for product recall

NHSBT Reagents, 14 Estuary Banks, Speke, Liverpool L24 8RB
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reagentscs@nhsbt.nhs.uk

For more Information:
Additional copies of this leaflet and any other further information can be obtained from the NHSBT Customer Services team or visit the Reagent area of the Website.
The address is: http://www.blood.co.uk/reagents

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