



## **Human Random Control DNA Generated from Leukocyte Depletion Filters Product Data Sheet**

**Product No:** Blood Filter DNA

### **The Concept – A ready supply of Human Random Control DNA**

To facilitate research in human genetic association, and similar studies, ECACC has developed a range of human control DNA panels that should prove an invaluable tool to many involved in human genetic research studying the genetic basis of complex diseases or the development and validation of sensitive genetic assay. The panels are already being used extensively by numerous research organisations including MRC geneservice Cambridge (part of the HGMP) and the Sanger centre. MRC geneservice use the DNA in the quality control of their Taqman assay and it has become an essential component of their SNP genotyping service. For the Sanger centre the DNA is an integral part of their large array of cancer research programmes. ECACC's HRC DNA has also been an integral part in studying conditions such as diabetes and asthma as well as providing random markers in population studies in the UK and Europe.

### **Generating Human Random Control DNA from Lymphocytes Back flushed Leukocyte Depletion Filters.**

After donating blood it is now a legal requirement that the lymphocytes be removed from the blood prior to transfusion as this greatly reduces post-operative complications in situations where blood transfusions are required. Lymphocytes are removed by passing the blood through a leukocyte reduction filter. Red blood cells pass through the filter, whereas the white blood cells are retarded on its matrix. After filtration the filters are discarded. The white blood cells can be removed from the matrix by back flushing the filters in the opposite direction of the original blood flow. These can be pelleted and the DNA extracted using ECACC's existing Qiagen DNA extraction system. This presents a method for generating very large numbers of random control DNA's, more than can be supplied currently from ECACC cell lines.

### **Intended Use**

ECACC Human Random Control DNA's are intended as an aid to determining the characteristics of DNA from apparently normal, randomly selected subjects as a basis for comparison with DNA from subjects that have been selected for particular phenotypic characters.

### **Description**

HRC DNA derived from blood donor reduction filters is DNA extracted from lymphocytes removed from the donated blood samples. The donors are all UK Caucasian. All donors have given written, informed consent for their blood to be used for research purposes.

The DNA is extracted and purified using the Qiagen DNA maxi extraction system that yields high molecular weight material, as verified by agarose gel electrophoresis.

#### **Amount and concentration of DNA**

The DNA concentration is measured using the Picolinked ds DNA Quantitation kit (Molecular Probes, USA) on a Fluroskan Ascent from Labsystems (Type 374).

The DNA is dissolved in 10mM Tris (pH8) 1mM EDTA to preserve the quality of the DNA.

#### **Storage**

ECACC DNA arrays are supplied frozen to preserve quality and also to facilitate handling. On receipt, the panels should be stored at -80°C. The DNA array presentation is intended for single use although, with care, repeat use is possible. After thawing, panel can be stored at 2-8°C for 6 months provided precautions are taken to prevent fluid loss by evaporation.

Repeated freeze-thawing cycles can damage the DNA and should be avoided.

#### **Use of HRC DNA's**

**Important** - The individual tubes should be centrifuged prior to removing the tops for use. This will prevent loss of product.

#### **Warnings and Precautions**

Avoid cross contamination between different samples comprising a panel. Use clean pipette tips for each specimen.

The master cell banks used to prepare the DNA extracts are taken from "low risk" normal blood donors. However it is recommended that standard laboratory precautions for handling potentially infectious material should be employed.

#### **Limitations of Use**

ECACC DNA Panels are intended for research use only.