MULTI-CAPILLARY DS-31 (DYE SET D w/VIC) MATRIX STANDARD KIT

Product P/N 4345829
Insert P/N 4362883 REV A
Printed in USA

The Matrix Standard Set DS-31 is used to generate the "multicomponent matrix" required when analyzing 6FAM -, VIC-, NED -, and ROX - labeled DNA fragments on the Applied Biosystems 3130 and 3100 Series Systems, and 3700 DNA Analyzer. The Data Collection Software for these instruments uses the multicomponent matrix to automatically analyze the four different colored fluorescent dye-labeled samples in a single capillary.

Matrix standards do not need to be run with every set of sample injections. The standard only needs to be run once in order to generate a matrix file which is then applied to samples run under similar conditions. For more information on the use of matrix standards, refer to the instrument User's Manual or Getting Started Guide.

The kit consists of one tube of matrix standard, which is sufficient for a minimum of eight array runs. The Matrix Standard Set DS-31 contains specific sizes of DNA fragments labeled with a unique fluorescent dye label. This standard is diluted in 1X TE buffer and is stable for one year when stored at 2°C to 8°C. (Do not freeze.)

Preparing the Matrix Standard Set DS-31 for the Applied Biosystems 3130 and 3100 Series Systems:

WARNING! CHEMICAL HAZARD. Hi-Di™ Formamide. Exposure causes eye, skin, and respiratory tract irritation. It is a possible developmental and birth defect hazard. Read the MSDS, and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

1. Thoroughly mix the contents of the tube and spin briefly in a microcentrifuge.

2. Prepare the matrix standard

   For a 36 cm array, combine 10 µL of standard with 190 µL of Hi-Di™ Formamide (P/N 4311320) in a 1.5 mL microcentrifuge tube.
   For a 50 cm array, combine 5 µL of standard with 195 µL of Hi-Di™ Formamide (P/N 4311320) in a 1.5 mL microcentrifuge tube.

3. Mix thoroughly and spin briefly in a microcentrifuge.

4. **If a GeneAmp® 9600/9700 thermal cycler is available for denaturation, follow steps A and B below.**

   A) Dispense 10 µL of the matrix standard/Hi-Di™ formamide mixture into a 96-well microtiter plate. For 16 capillaries, dispense into two columns (e.g. wells A1-H1, A2-H2). For 4 capillaries, dispense into 4 wells (e.g. wells A1-D1).
   B) Cover the plate and denature at 95°C for 5 minutes. Immediately place on ice.

   If a GeneAmp® 9600/9700 thermal cycler is not available, follow steps C and D below.

   C) Heat the mixture at 95°C for 5 minutes to denature, and immediately place on ice.
   D) Dispense 10 µL of the matrix standard/Hi-Di™ formamide mixture into a 96-well microtiter plate. For 16 capillaries, dispense into two columns (e.g. wells A1-H1, A2-H2). For 4 capillaries, dispense into 4 wells (e.g. wells A1-D1).

5. Place the 96-well microtiter plate on the plate deck of the instrument.

6. For specifics on setting up a run, refer to your User's Manual or Getting Started Guide.

Preparing the Matrix Standard Set DS-31 for the ABI PRISM 3700 DNA Analyzer:

1. Thaw and thoroughly mix the contents of the tube and spin briefly in a microcentrifuge.

2. Prepare the matrix standard by combining 10 µL of standard with 390 µL of Hi-Di™ Formamide (P/N 4311320) in a 1.5 mL microcentrifuge tube. Mix thoroughly.

3. Heat the mixture at 95°C for 5 minutes to denature and immediately place on ice.

4. Divide the mixture into two 200 µL MicroAmp® Reaction Tubes and place tubes at position 9 and 10 in the right 8-bar of the ABI PRISM 3700 DNA Analyzer plate deck.

5. For specifics on setting up a run, refer to the ABI PRISM 3700 DNA Analyzer User's Reference Manual.

NOTE: If the signal height of any one of the matrix standard fragments is saturated on the above instruments, reprepare the matrix standard mix with half the volume of matrix required in step 2. For example, in step 2 for the 3130 and 3100 Series Systems with a 36 cm array, reprepare the matrix standard mix with 5 µL of matrix standard and 195 µL of Hi-Di™ Formamide (P/N 4311320). Rerun the spectral calibration.

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