Gene Expression Analysis

ArrayHyb™ Microarray Hybridization Buffers

In response to the need for a hybridization buffer with high signal-to-noise ratios in fluorescent microarray analysis, Sigma has developed ArrayHyb™ and ArrayHyb™ LowTemp Microarray Hybridization Buffers.
ArrayHyb and ArrayHyb LowTemp are optimized, low-viscosity, ready-to-use hybridization buffers designed for use in gene expression analysis with cDNA or oligonucleotide probes spotted onto glass slides. Hybridizations with fluorescently labeled nucleic acids consistently provide superior signal and minimal background compared to standard and other commercially available hybridization buffers. Both formulations increase the rate of hybridization and can provide signals for analytical purposes in as little as 2 hours. Approximately 60-80% of the maximum signal is obtained in six hours, with extended incubation times resulting in increased sensitivity without increased background.
ArrayHyb is designed to replace standard microarray hybridization buffers when hybridizing at temperatures greater than 60°C.
This flexibility of ArrayHyb buffers allows hybridizations to be tailored to meet your specific requirements. ArrayHyb buffers are not only flexible, but also versatile and may be used with PCR products, genomic DNA, or oligonucleotides probes arrayed on glass slides.

Features and Benefits

- Increased rate of hybridization
- Superior signal and minimal background compared to standard and other commercially available hybridization buffers
- Signals for analytical purposes provided in as little as 2 hours.
- 60-80% of the maximum signal is obtained in six hours; extended incubation times result in increased sensitivity without increased background

A 7718 RT	**ArrayHyb™ Hybridization Buffer** ArrayHyb is an optimized microarray hybridization buffer recommended for use when hybridizing at temperatures greater than 60 °C. R: 36 S: 26-36	5 mL
A 3095 RT	**ArrayHyb™ Low Temp Hybridization Buffer** ArrayHyb Low Temp is formulated with formamide to allow increased stringency when hybridizations are carried out at lower temperatures (40-55 °C), reducing evaporation and condensation problems often associated with microarray hybridization experiments. In addition, ArrayHyb Low Temp offers increased hybridization specificity to further increase the true sensitivity of the microarray experiment. R: 61-20/22-37/38-41-42 S: 53-23-26-36/37/39-45	5 mL

HybChecker™

H 4411 -20°C	An optimized hybridization solution containing fluorescent labeled random oligonucleotides to be used for quality control evaluation of printed microarray slides. Designed to verify that the nucleic acid is present on the slide's surface and is available for hybridization. Allows for assessment of spot morphology and detection of any spotting irregularities. R: 36/37/38 S: 26-36	250 µL 5 × 250 µL

Microarray Hybridization Wash Pack

M 2185 RT	Microarray Hybridization Wash Pack provides optimized blocking and wash solutions for microarray slides. Ready-to-use wash solutions have been validated for use with SigmaScreen™ APS Coated Slides for Microarrays (Product Code S 9936). **Components:** Microarray Hybridization Blocking Buffer, 1L Microarray Post Hybridization Wash Buffer I, 2×1L Microarray Post Hybridization Wash Buffer II, 1L Microarray Post Hybridization Wash Buffer III, 1L	1 pkg

Nucleic Acid Electrophoresis

Agarose Gel

Agarose

CAS No. 9012-36-6

Features and Benefits

The following is a list of properties associated with our agaroses:
Sulfate content - used as an indicator of purity, since sulfate is the major ionic group present.
Gel strength - the force that must be applied to a gel to cause it to fracture.
Gel point - the temperature at which an aqueous agarose solution forms a gel as it cools. Agarose solutions exhibit hysteresis in the liquid-to-gel transition - that is, their gel point is not the same as their melting temperature.
Electroendosmosis (EEO) - a movement of liquid through the gel. Anionic groups in an agarose gel are affixed to the matrix and cannot move, but dissociable counter cations can migrate toward the cathode in the matrix, giving rise to EEO. Since electrophoretic movement of biopolymers is usually toward the anode, EEO can disrupt separations because of internal convection.

A 9539 RT	**For routine use** Routine use agarose is ideal for routine analysis of nucleic acids by gel electrophoresis or blotting (Northern or Southern) and is also suitable for protein applications such as Ouchterlony and radial immunodiffusion (RID). Has low ethidium bromide and SYBR Green background staining.	10 g 25 g 50 g 100 g 250 g 500 g

DNase, RNase	none detected
Water	≤10%
Ash	≤1.0%
EEO	0.09-0.13
Gel point	36 °C(± 1.5°C)