

Biological & Environmental Research Microarray

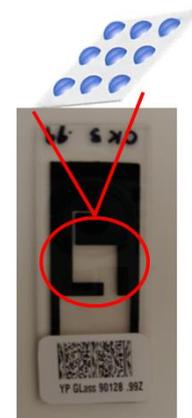
The Pace BER array is a low-cost semi-quantitative 16s based assay that contains 150 thermodynamically balanced probes spanning 35 groups of bacteria important in cleaning up sites. The array is suitable for DNA or rRNA analysis and samples can be analyzed from surface water, groundwater, soils or sediments.

The BER array consists of 150 gel elements which provide a 3-dimensional aqueous reaction environment for DNA, RNA and proteins.

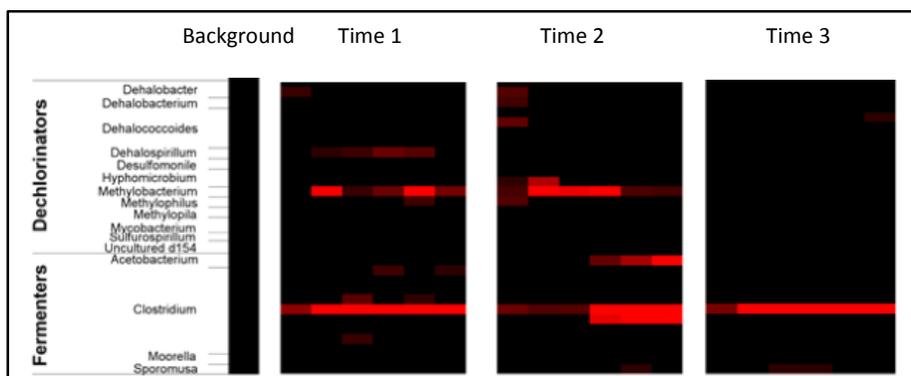
BER Array Targets

- PCE, TCE, DCE and VC reductive dechlorination
 - Includes several DHC species
- Chlorinated Aromatics degradation
- Chlorinated Alkanes degradation
- Vinyl Chloride oxidation
- Perchlorate reduction
- Anaerobic hydrocarbon degradation
- Fuel oxygenate degradation
- Chromium and Uranium reduction
- Acetate generation (acetogens)
- Other degradation reactions

In addition to contaminant degradation, the BER array also provides geochemical setting data and information regarding the production of compounds needed for reductive dechlorination. The array format allow for a large amount of information to be obtained at a low cost. The array is ideal for both characterization and monitoring changes in the structure of contaminant degrading bacterial communities.



Example array data heat map



The example heat map shows array results for a site undergoing active biostimulation. The growth of both dechlorinators and fermenters can be seen in times 1 and 2. They die off in time 3.