



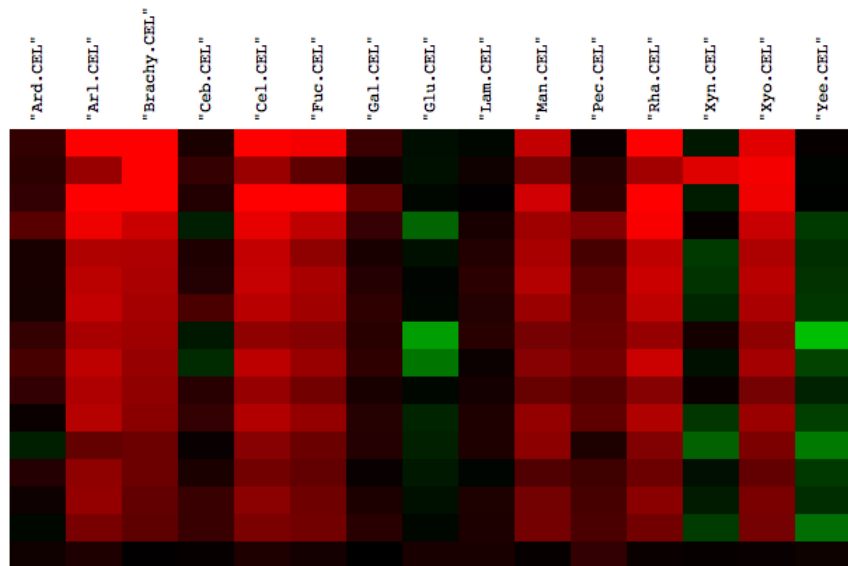
INSTITUTE FOR CELLULAR ENGINEERING

Regulation of Glycoside Hydrolases and Transport Systems in *Clostridium phytofermentans* on Complex Substrates

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Above: A representative microarray cluster showing differential expression on 15 different substrates. Red represents genes which are highly expressed, black and green are genes which are not highly expressed.

Clostridium phytofermentans (Cphy) is a bacteria that is capable of fermenting all major carbohydrate components of plant biomass to ethanol. This makes Cphy a leading candidate for biofuel production. The regulatory mechanisms used by Cphy in order to breakdown and transport these carbohydrates is the focus of my research. I will use microarray technology and genetic engineering techniques to determine these regulator mechanisms. An understanding of the regulatory mechanisms will enable us to engineer Cphy make biofuels more efficiently.