DNA-RNA-Proteins measurement

Computational Biology camp for high school students

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How do we measure them?



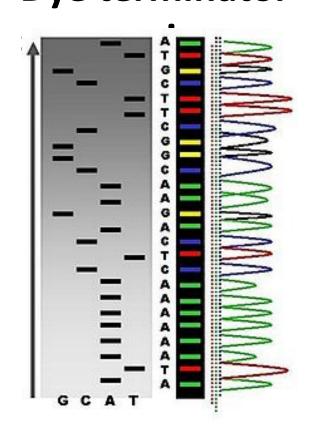
DNA

• What do we want to measure?



DNA sequencing

Dye terminator



Attribution: Abizar at en.wikipedia

DNA extraction **DNA** fragmentation **Clone into Vectors** Transform bacteria, grow, isolate vector DNA Sequence the library Assemble contiguous fragments

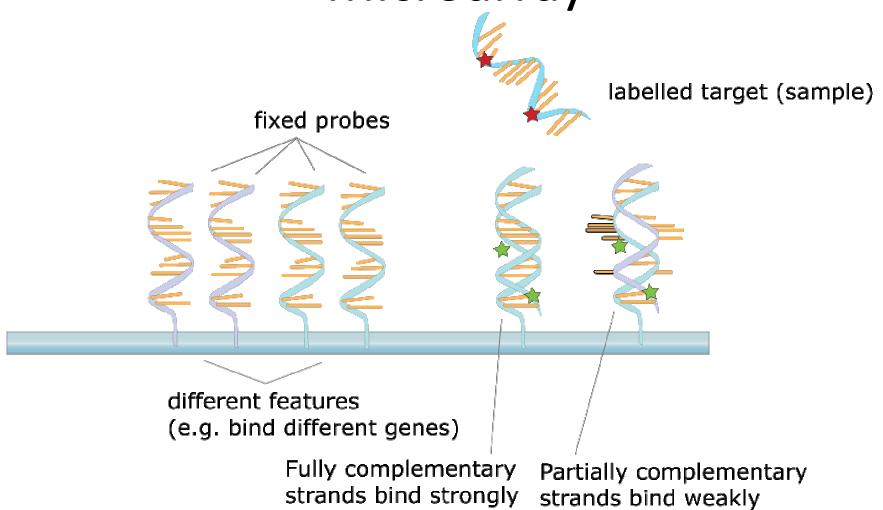
BY PROFESSOR CHARLES PUSEY

RNA

• What do we want to measure?



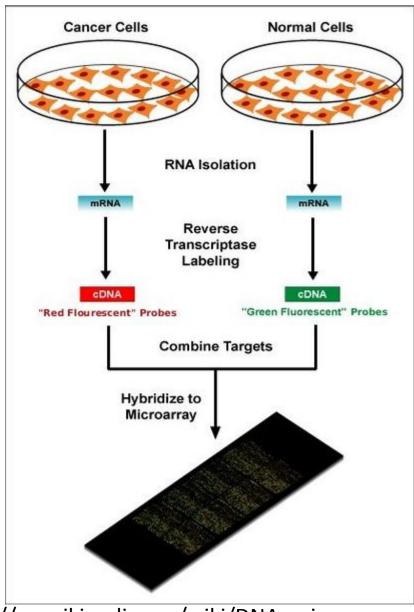
Microarray



http://en.wikipedia.org/wiki/DNA_microarray



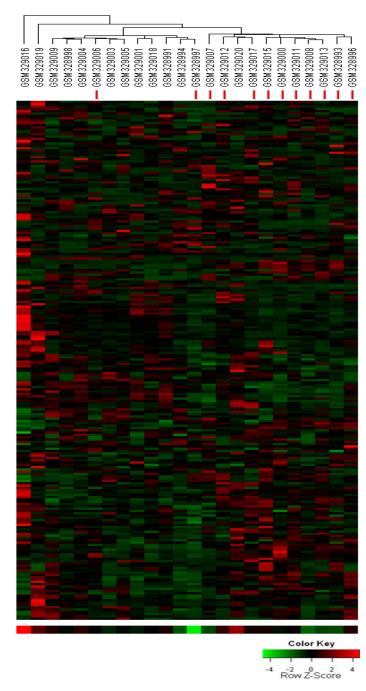
Compare expressions



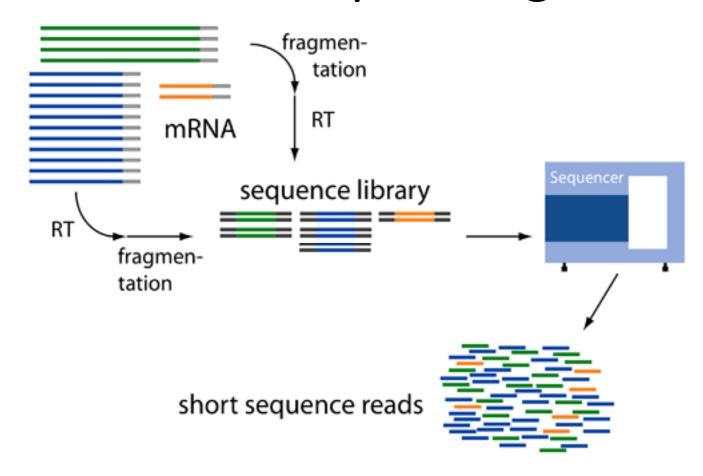
http://en.wikipedia.org/wiki/DNA_microarray



heatmap



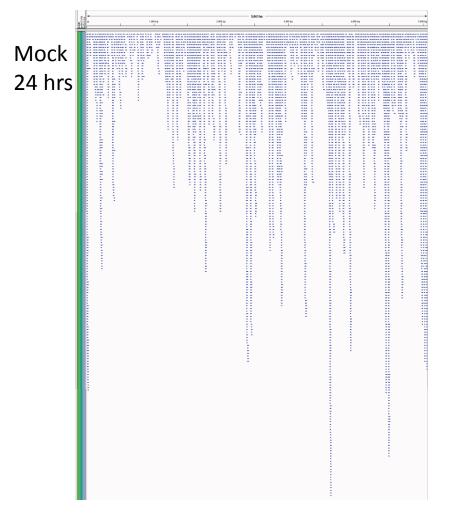
RNA sequencing



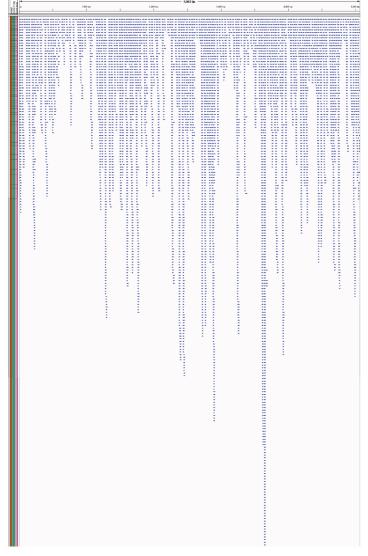
http://www.raetschlab.org/members/research/transcriptomics/images/RNA-Sequencing.png/



28S rRNA fragment



24hrs after Infection

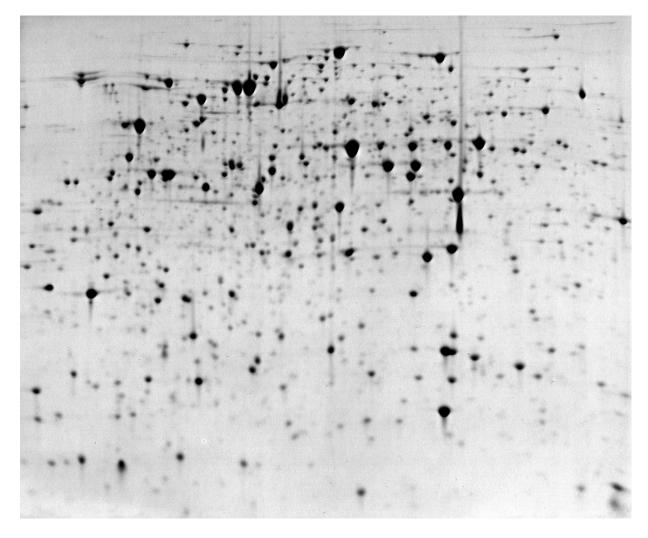


Protein

• What do we want to measure?



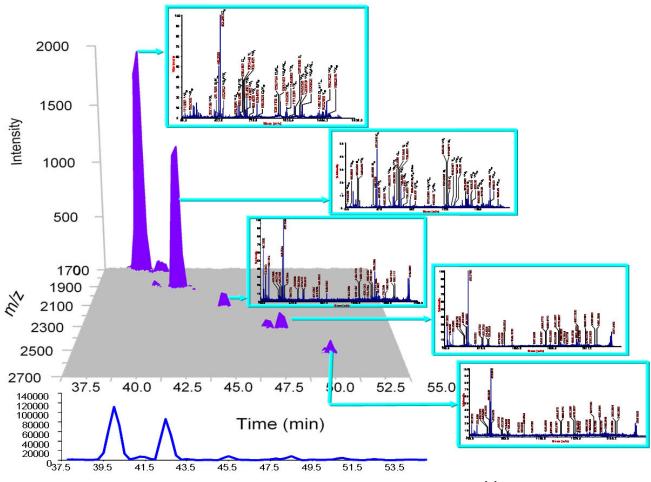
2D gel electrophoresis



abdn.ac.uk



Mass Spectrometry



http://ncgg.indiana.edu

