Obtain methylation signatures

The significant CpG loci detected in the previous step actually form a methylation signature that differentiates between LCLs and B cells. We can build and visualize this methylation signature using clustering and a heat map.

- Select the LCLs_vs_Bcells_CpG_Islands spreadsheet in the spreadsheet pane on the left
- Select **Cluster Based on Significant Genes** from the *Visualization* panel of the *Illumina BeadArray Methylation* workflow Select **Hierarchical Clustering** for *Specify Method* (Figure 1) •
- ٠

🤣 Cluster Significant Genes		×
Specify method		
Select a type of clustering to perform.		
Hierarchical Clustering		
○ SOM Clustering		
	ОК	Cancel

Figure 1. Selecting Heirarchical Clustering for clustering method

- Select OK
- Verify that LCLs_vs_Bcells_CpG_Islands is selected in the drop-down menu
- Verify that Standardize is selected for *Expression normalization* (Figure 2)

🤣 Cluster the significant genes	×
Cluster genes using hierarchical dustering on the expression values using only the genes present in the selected spreadsheet.	
Spreadsheet with list of significant differentially expressed genes.	0
1/mvalue/lcls_vs_b_cells_cpg_islands (LCLs_vs_B_cells_CpG_Islands)	~
Expression normalization	
Standardize - shift genes to mean of zero and scale to standard deviation of one	
○ Shift - shift genes to mean of zero	
○ None - do not adjust the values	
ок	Cancel

Figure 2. Selecting spreadsheet and normalization method for clustering

Select OK

The heat map will be displayed on the Hierarchical Clustering tab (Figure 3).



Figure 3. Hierarchical clustering with heat map invoked on a list of significant CpG loci

The experimental groups are rows, while the CpG loci from the *LCLs vs B cells* spreadsheet are columns. Methylation levels are compared between the LCLs and B cells groups. CpG loci with higher methylation are colored red, CpG loci with lower methylation are colored green. LCLs samples are colored orange and B cells samples are colored red in the dendrogram on the the left-hand side of the heat map.

« Filter loci with the interactive filter Visualize methylation at each locus »

Additional Assistance

If you need additional assistance, please visit our support page to submit a help ticket or find phone numbers for regional support.



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