Functional Proteomics by Reverse Phase Protein Array

Frozen Tissue

Cultured Cells

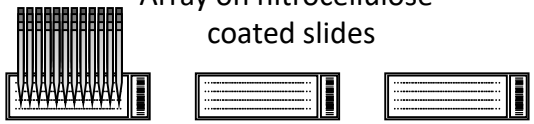
Extract protein

Extract protein

Adjust protein concentration
and denature protein by SDS

Serially dilute lysates
(2-fold for 5 dilutions)
>12% of slide contains control samples for QC,
spatial correction, and data merging across slides

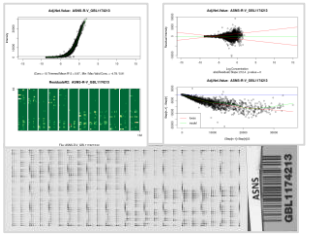
Array on nitrocellulose-
coated slides



Probe with validated antibodies
Signal detection by DAB colorimetric reaction

Spot density determination by Array-Pro
(Automatic spot finding and background subtraction)

Protein concentration determination
by RPPA SPACE

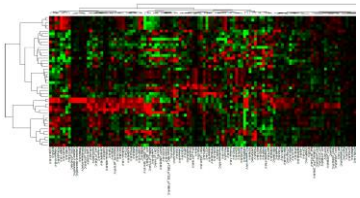


Spatial Correction
Quality Control
Curve Fitting

Normalize for protein loading &
merging data across slide

Heatmaps with supervised
& unsupervised
hierarchical clustering

Excel file of normalized
protein expression (relative
concentration)



Further analyses by Bioinformatics