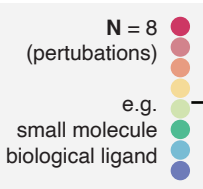


phenotypic screen design



$R = 4$
(replicates)



conventional screen



$$S = N \cdot R$$
$$S = 32 \text{ (samples)}$$

compressed screen



$P = 4$ (pool size)

$$S = (N \cdot R) / P$$
$$S = 8 \text{ (samples)}$$

4-fold
compression

perturbation effect

Z
effect
size



$$Y = X\beta$$

deconvolute
perturbation effects