

PC_selection

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1 optimal number of PCs

```
[ ]: PC_selection <- function(seurat.pca){  
  pct <- seurat.pca[["pca"]]\$stddev/sum(seurat.pca[["pca"]]\$stddev)*100  
  cumu <- cumsum(pct)  
  co1 <- which(cumu>90 & pct < 5)[1]  
  co2 <- sort(which((pct[1:length(pct) - 1] - pct[2:length(pct)]) > 0.1),  
  ↪decreasing = T)[1]+1  
  pcs <- min(co1, co2) ## PC  
  
  view <- data.frame(pct = pct, cumu = cumu, rank = 1:length(pct))  
  p <- ggplot(view, aes(cumu, pct, label = rank, color = rank>pcs))+  
    geom_text() + geom_vline(xintercept = 90, color =  
  ↪"grey") + geom_hline(yintercept = min(pct[pct>5]), color = "grey") +  
    theme_bw()  
  return(list(PCselect = c(pcs, co1, co2), p = p))  
}
```