

### **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Per patient clinical information for Barrier (Sheet 1), CPC (Sheet 2), WCDT (Sheet 3) and VPC (Sheet 4) cohorts. Sample batch information (Sheet 5).

File Name: Supplementary Data 2

Description: Bin level raw count matrix for all samples.

File Name: Supplementary Data 3

Description: Normalized peak level intensity.

File Name: Supplementary Data 4

Description: Data source for public ChIP-seq data used in this study.