

Table S1: **Repeated common regulatory interactions in other cancer studies.**

| TF    | Gene   | N  | TCGA Studies  |
|-------|--------|----|---|
| ERCC6 | TBC1D5 | 15 | BLCA, BRCA, CESC, COAD, KIRC, LAML, LGG, LUAD, OV, PAAD, PRAD, STES, TGCT, THCA, THYM |
|       | PEBP1  | 2  | PRAD, THCA  |
| VEZF1 | TBC1D5 | 9  | BRCA, COAD, KIRC, KIRP, LAML, STES, THCA, THYM, UCEC                                  |
|       | PIK3C3 | 8  | BRCA, GBM, KIRC, LGG, PAAD, PRAD, SARC, THCA  |
|       | WDR45  | 3  | KIRC, PRAD, THYM  |
|       | PEBP1  | 2  | LGG, PRAD   |