

Supplementary Methods

Promoter Analysis of BRCA1/PALB2 target genes

Promoter analysis was performed using CLOVER (Martin C Frith, Yutao Fu, Liqun Yu, Jiang-Fan Chen, Ulla Hansen, Zhiping Weng (2004). Detection of functional DNA motifs via statistical over-representation. *Nucleic Acids Research* 32(4):1372-81).

For each gene, the promoter region (1000bp upstream and 500bp downstream of TSS) was analyzed using the Jaspar 2009 TF matrix database. As a background we used the promoter region of all Hg18 genes. We reported matrices significantly over-represented, with a p-value below 0.01.

Oligonucleotides for qChIP

| | |
|---------------|--------------------------|
| FOS 5' FOR | CCAAGACTGAGCCGGCGGCC |
| FOS 5' REV | ACAGGTGGGCGCTGTGGAGC |
| FOS body FOR | GGGGTGCCAGGAAGCAGGGA |
| FOS body REV | ACCTCCATTACCCACCCCAGT |
| FOS 3' FOR | ATGCGACCAACCTTGTGCTCT |
| FOS 3' REV | GTCCCCCTCCAGCAGCTACC |
| NEAT1 FOR | GGGACCACAGTGGGGCAGGC |
| NEAT1 REV | CCTGGCCTGGAGCGTGGCTG |
| FTH FOR | CCCACCCAGCTTCCCTTGC |
| FTH REV | AGCCAGTGCTGGGCGTAGGT |
| U4 FOR | TCAAGTCGTCATGGCGGGGT |
| U4 REV | TCCAGCTTTGCGCAGTGGCA |
| U11 FOR | TGCCACCCTGCTTTGGTGACA |
| U11 REV | GCCCTACGTGTGCCACTCACG |
| MALAT1 FOR | CACTTCAACCCCTATGTTGC |
| MALAT1 REV | ATACAGGCTGGGTAGGTTGG |
| U1 0 FOR | TCCGGAGTGCAATGGATAAG |
| U1 0 REV | GAGGCGTATGAGGCTGTGTC |
| U1 +0.3kb FOR | GAGAAAAAGCGAGCATCAGC |
| U1 +0.3kb REV | ACCAATCCCTGCAAAAAGC |
| U1 +0.6kb FOR | TCACTCCACATCCTACATCC |
| U1 +0.6kb REV | GACACTGGCACCAGAAATAGG |
| U1 +2kb FOR | CAGCTGAAAAATTCAAATACATGC |
| U1 +2kb REV | TCATATTGCTGATTCCATTGC |
| JUN FOR | TGTGGCTGAAGCAGCGAGGC |
| JUN REV | GACCTGGCTGGCTGGCTGTG |
| CXCL1 5' FOR | TCGGAGAGCCACAGAGCCCG |
| CXCL1 5' REV | GAGGAGCGGAAGAGCTGGCG |
| CXCL1 3' FOR | AGGCAGTCTCCTGTTGGGAGTGT |
| CXCL1 3' REV | TCACCCTGTGACTACCACGCCA |
| IL8 5' FOR | AGTGTGATGACTCAGGTTTGCCCT |
| IL8 5' REV | CCACGATTTGCAACTGATGGCCC |

| | |
|---------------|---------------------------|
| IL8 3' FOR | GTCCTTGTTCCACTGTGCCTTGGT |
| IL8 3' REV | AGTGCTTCCACATGTCTCACAACA |
| NFKBIA 5' FOR | ACGGACTGCTGTGGGCTCTGC |
| NFKBIA 5' REV | CCCCAGCCAGCGTTTATAGGGCG |
| NFKBIA 3' FOR | ACCCCAAACGAGCACGTATGAAA |
| NFKBIA 3' REV | CCTGTCTAGGGTCACCTTGCAGGA |
| SOD 2 3' FOR | TGACTGGAGATACAGGTCTTGGTCT |
| SOD 2 3' REV | TCACTGAGTTTCCATGGGAAAGGAA |
| CXCL2 3' FOR | TCTCCCATCAGGGGCAAGACCA |
| CXCL2 3' REV | TGCTGTCACTCCCCTTGGCT |
| HOXA1 FOR | TGGGGTATTCCAGGAAGGAG |
| HOXA1 REV | GCAGGACCAGGTCACCTCAG |
| HOXA1 3'FOR | GCTCCTGGACTCGCCTTTTCGC |
| HOXA1 3' REV | ACAGCTCTCCCCTCCCTTGTCC |
| HOXA2 FOR | TCCCTGGAAATCGCCGATGGCA |
| HOXA2 REV | AAGCAGTTCTCAGGCGCCGCG |
| HOXA2 3'FOR | CCTGGAGTTGGGGGTTTCTGT |
| HOXA2 3'REV | GCCAAGCCCAAGCTCTTGAA |
| CCL20 FOR | GTGGCAACACGCCTTCTGTG |
| CCL20 REV | CAGCCTGGGATGGCCCTATT |
| TNFAIP3 FOR | GTGGAAATCCCCGGGCCTAC |
| TNFAIP3 REV | CAGTCTGCTTTGCCCGTTT |
| CXCL3 FOR | ATCCCGGAGCTCCAGATCG |
| CXCL3 REV | CTCCCCCTACCCGTATCCGA |
| IRF FOR | ACTTAGCGGGATTCCCCAGC |
| IRF REV | TTTCCCCGAAATGACGGCAC |
| MAP3K8 FOR | GAAAACTCGTCCCCGTCCCA |
| MAP3K8 REV | CGGGACTAGGGAGGAGCAGA |
| BCL3 FOR | CGGCCGACAAAAGTCCCTTC |
| BCL3 REV | TGCACGGGAGGGTGGTTTC |

Oligonucleotides for RT-PCR

| | |
|------------|-----------------------------|
| IL8 FOR | CGTGGCTCTCTTGGCAGCCT |
| IL8 REV | AGCACTCCTTGGCAAACTGCAC |
| CXCL1 FOR | GGCACTGCTGCTCCTGCTCC |
| CXCL1 REV | CCACGGACGCTCCTGCTGC |
| CXCL2 FOR | CATGGCCCCGCGCCACGCTCT |
| CXCL2 REV | AGGGGCGCTCCTGCTGCG |
| CXCL3 FOR | CCGCATCCCCCATGGTTCAGA |
| CXCL3 REV | TGCAGGAAGTGTC AATGATACGCTG |
| NFKBIZ FOR | TGGAGTCCCGGTCGAGAGGGC |
| NFKBIZ REV | CTCTCTGCTGCCTGCCAACC |
| NFKBIA FOR | ACTGAACTGATAAGACCCTTCAAGCCT |
| NFKBIA REV | ACGTGCTCGTTTTGGGGTAAACA |
| SOD2 FOR | GGGCATCGAGACTACTGGGTGCA |
| SOD2 REV | TGTGAAAAGGAAGGAGCACGAATGCT |
| P65 FOR | CCGCCTGCCGCCTGTCCTT |
| P65 REV | GCTCGGCAGTGTTGGGGGCA |
| PALB2 FOR | CCTCCCGGGAAGCCCCTCAG |
| PALB2 REV | CGCTGAAGGCGGGCTAGTGT |
| BRCA1 FOR | GCGCTCAGGAGGCCTTCACCC |
| BRCA1 REV | GTA CT TCTTCAACGCGAAGAGCAGA |

| | |
|-------------|---------------------------|
| HOXA1 FOR | CCCTCCCAAAACAGGGAAAG |
| HOXA1 REV | CTGCTTGGTAGTGAAGTTGG |
| HOXA2 FOR | TCCCTGGAAATCGCCGATGGCA |
| HOXA2 REV | AAGCAGTTCTCAGGCGCCGCG |
| PIG3 FOR | GGCTCACCGCCTTCCAGCTG |
| PIG3 REV | GCAGCTGTGCCACACCACT |
| CDKN1A FOR | GAATAGGGCTTCCCTCTGG |
| CDKN1A REV | GGATAGGGCTTCCCTCTGG |
| GUSB FOS | CTCATTGGGAATTTTGCCGATT |
| GUSB REV | CCGAGTGAAGATCCCCTTTTAA |
| ICAM1 FOR | ACCGTGAATGTGCTCTCCCC |
| ICAM1 REV | AGGCCTGCAGTGCCCATTAT |
| PHLDA1 FOR | CGGGCAAGACAAGTTTTGAGG |
| PHLDA1 REV | GGGCGGAGAGACTGTTTTGC |
| BIRC3 FOR | CTCTGGGCAGCAGGTTTACA |
| BIRC3 REV | TTCTCTAGGGAGGTAGTTTTGATTT |
| NUAK2 FOR | CAGATCAGCAACGGGGCCTA |
| NUAK2 REV | ATCAGGCCACAGGCATCAGA |
| RND1 FOR | GCGCACTCAAGAAGTGGAGG |
| RND1 REV | GCAGCCAATGAGCAAAACGC |
| CCL20 FOR | GCGGCGAATCAGAAGCAAGC |
| CCL20 REV | GCCGTGTGAAGCCCACAATAA |
| TNFAIP3 FOR | TGCCTTGACCAGGACTTGGG |
| TNFAIP3 REV | CTCTCCAACACCTCTCCGGG |
| FOS FOR | AGGAGGGGCAAGGTGGAACAG |
| FOS REV | AGCTCCCTCCTCCGTTGCG |
| NR4A1 FOR | ACGCGGGACCAGGGACCA |
| NR4A1 REV | TGGGCTTGGATACAGGGCATCT |

Plasmid constructs

The shRNA constructs were obtained by cloning the following oligonucleotides into the pSico PGK PURO vector:

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|-------------|---|
| CTRLsh-f | TACGCCAACGCAGGAAAGAGTTCAAGAGACTCTTTCCTGCGTTGGCGTTTTTTTC |
| CTRLsh-r | TCGAGAAAAAACGCCAACGCAGGAAAGAGTCTCTTGAAGTCTTTCCTGCGTTGGCGTA |
| PALB2-sh1-f | TCACTGATTCACTCAGATTGTTCAAGAGACAATCTGAGTGAATCAGTGTTTTTTC |
| PALB2-sh1-r | TCGAGAAAAAACTGATTCACTCAGATTGTCTCTTGAACAACTGAGTGAATCAGTGA |
| PALB2-sh2-f | TGACTTAGAAGAGGACCTTATTCAAGAGATAAGGTCCTCTTCTAAGTCTTTTTTC |
| PALB2-sh2-r | TCGAGAAAAAAGACTTAGAAGAGGACCTTATCTCTTGAATAAGGTCCTCTTCTAAGTCA |
| BRCA1-sh1-f | TGCAGAAACCTACAACCTATTCAAGAGAATGAGTTGTAGGTTTCTGCTTTTTTC |
| BRCA1-sh1-r | TCGAGAAAAAAGCAGAAACCTACAACCTATTCTCTTGAATGAGTTGTAGGTTTCTGCA |
| BRCA1-sh2-f | TGCATGAGAACAGCAGTTTATTTTCAAGAGAAATAAACTGCTGTTCTCATGCTTTTTTC |
| BRCA1-sh2-r | TCGAGAAAAAAGCATGAGAACAGCAGTTTATTTCTCTTGAATAAACTGCTGTTCTCATGCA |
| p65-sh1-f | TGCCCTATCCCTTACGTCATTCAAGAGATGACGTAAAGGGATAGGGCTTTTTTC |
| p65-sh1-r | TCGAGAAAAAAGCCCTATCCCTTACGTCATCTCTTGAATGACGTAAAGGGATAGGGCA |
| p65-sh2-f | TGGATTGAGGAGAAACGTAATCAAGAGATTACGTTTCTCCTCAATCCTTTTTTC |
| p65-sh2-r | TCGAGAAAAAAGGATTGAGGAGAAACGTAATCTCTTGAATTACGTTTCTCCTCAATCCA |