**Supplementary table 1.** Transcription factor binding sites containing nucleotide variants associated with hTERT expression.

| SNP            | Transcription factor | Cell type       |
|----------------|----------------------|-----------------|
| rs117212853    | CTCF                 | A549            |
|                | CTCF                 | Gliobla         |
|                | CTCF                 | GM12865         |
|                | CTCF                 | HCT-116         |
|                | CTCF                 | HeLa-S3         |
|                | CTCF                 | HepG2           |
|                | CTCF                 | HSMM            |
|                | CTCF                 | HSMMtube        |
|                | CTCF                 | K562            |
|                | CTCF                 | MCF-7           |
|                | CTCF                 | NB4             |
|                | E2F6                 | K562            |
|                | CTCF                 | GM12892         |
|                | CTCF                 | H1-hESC         |
|                | CTCF                 | WERI-Rb-1       |
|                | RAD21                | HepG2           |
| rs113633899    | SIN3A                | H1-hESC         |
|                | TFAP2A               | HeLa-S3         |
|                | TFAP2C               | HeLa-S3         |
|                | IKZF1                | HSPC            |
|                | MYC                  | MCF-7           |
| rs113285167    | SIN3A                | H1-hESC         |
|                | TFAP2A               | HeLa-S3         |
|                | TFAP2C               | HeLa-S3         |
|                | IKZF1                | HSPC            |
|                | CTCF                 | GM12891         |
|                | CTCF                 | GM19239         |
|                | CTCF                 | MCF-7           |
|                | CTCF                 | NHEK            |
|                | MAX                  | NB4             |
|                | MYC                  | MCF-7           |
|                | TCF12                | GM12878         |
|                | TCF12                | H1-hESC         |
|                | CTCF                 | GM19238         |
|                | CTCF                 | GM12892         |
| rs112953754    | CTCF                 | MCF-7           |
|                | IKZF1                | HSPC            |
| rs75629604     | CREBBP               | Jurkat          |
|                | E2F6                 | K562            |
Supplementary table 2. Functions annotated from enrichment analysis with genes which expressions were associated with rs2636908.

| Function                  | P     | Relevant Genes               |
|---------------------------|-------|-----------------------------|
| Linker                    | 0.02  | CDC14B, TERT                |
| Cytoskeletal protein      | 0.03  | CORO2B, PRICKLE2, MYO16, LNX1|
| Actin binding cytoskeletal protein | 0.04  | CORO2B, PRICKLE2, MYO16     |
| Cell motility             | 0.04  | CORO2B, PRICKLE2, SLIT1     |