

SUPPLEMENTARY TABLE LEGENDS

Supplementary Table S1. Characteristics of bladder cancer patients

| Patient No. | Sex | Age | Stage | Grade | Superficial/ Invasive | Primary/ Relapsed |
|-------------|-----|-----|-------|-------|--------------------------|----------------------|
| 1 | M | 68 | T3 | 2 | Invasive | Primary |
| 2 | M | 52 | T2 | 3 | Invasive | Relapsed |
| 3 | M | 64 | T3 | 2 | Invasive | Primary |
| 4 | M | 73 | T2 | 3 | Invasive | Primary |
| 5 | M | 57 | T2 | 2 | Invasive | Primary |
| 6 | M | 40 | T3 | 2 | Invasive | Primary |
| 7 | M | 71 | T4 | 2 | Invasive | Primary |
| 8 | M | 65 | T4 | 1 | Invasive | Primary |
| 9 | M | 82 | T3 | 3 | Invasive | Primary |
| 10 | M | 70 | T4 | 3 | Invasive | Primary |
| 11 | M | 81 | T3 | 3 | Invasive | Primary |
| 12 | M | 57 | T4 | 2 | Invasive | Primary |
| 13 | M | 48 | T3 | 2 | Invasive | Primary |
| 14 | F | 69 | T2 | 1 | Invasive | Primary |
| 15 | M | 66 | T3 | 2 | Invasive | Primary |
| 16 | F | 57 | T3 | 3 | Invasive | Primary |
| 17 | M | 64 | T2 | 3 | Invasive | Primary |
| 18 | M | 80 | T3 | 2 | Invasive | Relapsed |
| 19 | M | 56 | T2 | 2 | Invasive | Primary |
| 20 | M | 83 | T3 | 2 | Invasive | Primary |
| 21 | M | 62 | T3 | 3 | Invasive | Primary |
| 22 | M | 60 | T2 | 2 | Invasive | Primary |
| 23 | M | 57 | T2 | 2 | Invasive | Relapsed |
| 24 | F | 64 | T2 | 3 | Invasive | Primary |
| 25 | M | 59 | T3 | 1 | Invasive | Primary |
| 26 | M | 52 | T3 | 2 | Invasive | Primary |
| 27 | F | 83 | T3 | 1 | Invasive | Primary |
| 28 | M | 49 | T2 | 1 | Invasive | Primary |
| 29 | M | 55 | T3 | 2 | Invasive | Primary |
| 30 | M | 68 | T3 | 2 | Invasive | Primary |
| 31 | M | 65 | T3 | 3 | Invasive | Relapsed |
| 32 | M | 73 | T2 | 2 | Invasive | Primary |

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| Patient No. | Sex | Age | Stage | Grade | Superficial/ Invasive | Primary/ Relapsed |
|-------------|-----|-----|-------|-------|--------------------------|----------------------|
| 33 | M | 47 | T3 | 2 | Invasive | Relapsed |
| 34 | M | 83 | T3 | 3 | Invasive | Primary |
| 35 | M | 78 | T4 | 3 | Invasive | Primary |
| 36 | M | 65 | T3 | 3 | Invasive | Primary |
| 37 | F | 53 | T3 | 3 | Invasive | Primary |
| 38 | M | 82 | T2 | 2 | Invasive | Primary |
| 39 | M | 65 | T2 | 2 | Invasive | Primary |
| 40 | M | 66 | T3 | 2 | Invasive | Primary |
| 41 | M | 53 | T3 | 3 | Invasive | Primary |
| 42 | M | 57 | T3 | 3 | Invasive | Primary |
| 43 | M | 64 | T2 | 2 | Invasive | Primary |
| 44 | M | 75 | T4 | 2 | Invasive | Primary |
| 45 | F | 76 | T4 | 3 | Invasive | Primary |
| 46 | M | 69 | T2 | 2 | Invasive | Primary |
| 47 | M | 56 | T4 | 2 | Invasive | Primary |
| 48 | F | 73 | T2 | 3 | Invasive | Primary |
| 49 | F | 73 | T3 | 3 | Invasive | Primary |
| 50 | M | 65 | T2 | 3 | Invasive | Primary |
| 51 | M | 58 | T2 | 2 | Invasive | Primary |
| 52 | M | 79 | T4 | 2 | Invasive | Primary |
| 53 | F | 80 | T3 | 2 | Invasive | Primary |
| 54 | M | 57 | T4 | 3 | Invasive | Primary |
| 55 | M | 66 | T3 | 2 | Invasive | Primary |
| 56 | M | 54 | T2 | 2 | Invasive | Primary |
| 57 | M | 56 | T2 | 2 | Invasive | Primary |
| 58 | M | 60 | T2 | 3 | Invasive | Primary |
| 59 | M | 78 | T4 | 3 | Invasive | Relapsed |
| 60 | M | 65 | T4 | 3 | Invasive | Relapsed |

Supplementary Table S2. TERT promoter mutations in subpopulation cell types of bladder cancer patients

| Patient No. | BCSCs | | non-BCSCs | | NBBCs | | non-NBBCs | |
|-------------|-------|-------|-----------|-------|-------|-------|-----------|-------|
| | C228T | C228C | C228T | C228C | C228T | C228C | C228T | C228C |
| 1 | 13 | 7 | 9 | 11 | 0 | 20 | 0 | 20 |
| 2 | 17 | 3 | 12 | 8 | 0 | 20 | 0 | 20 |
| 3 | 14 | 6 | 7 | 13 | 0 | 20 | 0 | 20 |
| 4 | 16 | 4 | 10 | 10 | 0 | 20 | 0 | 20 |
| 5 | 14 | 6 | 5 | 15 | 0 | 20 | 0 | 20 |
| 6 | 17 | 3 | 12 | 8 | 0 | 20 | 0 | 20 |
| 7 | 15 | 5 | 6 | 14 | 0 | 20 | 0 | 20 |
| 8 | 11 | 9 | 3 | 17 | 0 | 20 | 0 | 20 |
| 9 | 16 | 4 | 12 | 8 | 0 | 20 | 0 | 20 |
| 10 | 13 | 7 | 10 | 10 | 0 | 20 | 0 | 20 |
| 11 | 16 | 4 | 11 | 9 | 0 | 20 | 0 | 20 |
| 12 | 16 | 4 | 13 | 7 | 0 | 20 | 0 | 20 |
| 13 | 15 | 5 | 13 | 7 | 0 | 20 | 0 | 20 |
| 14 | 13 | 7 | 12 | 8 | 0 | 20 | 0 | 20 |
| 15 | 16 | 4 | 13 | 7 | 0 | 20 | 0 | 20 |
| 16 | 15 | 5 | 12 | 8 | 0 | 20 | 0 | 20 |
| 17 | 12 | 8 | 10 | 10 | 0 | 20 | 0 | 20 |
| 18 | 18 | 2 | 14 | 6 | 0 | 20 | 0 | 20 |
| 19 | 15 | 5 | 12 | 8 | 0 | 20 | 0 | 20 |
| 20 | 16 | 4 | 10 | 10 | 0 | 20 | 0 | 20 |
| 21 | 17 | 3 | 11 | 9 | 0 | 20 | 0 | 20 |
| 22 | 15 | 5 | 12 | 8 | 0 | 20 | 0 | 20 |
| 23 | 13 | 7 | 10 | 10 | 0 | 20 | 0 | 20 |
| 24 | 12 | 8 | 9 | 11 | 0 | 20 | 0 | 20 |
| 25 | 11 | 9 | 8 | 12 | 0 | 20 | 0 | 20 |
| 26 | 14 | 6 | 10 | 10 | 0 | 20 | 0 | 20 |
| 27 | 18 | 2 | 16 | 4 | 0 | 20 | 0 | 20 |
| 28 | 14 | 6 | 7 | 13 | 0 | 20 | 0 | 20 |
| 29 | 16 | 4 | 12 | 8 | 0 | 20 | 0 | 20 |
| 30 | 13 | 7 | 3 | 17 | 0 | 20 | 0 | 20 |
| 31 | 15 | 5 | 12 | 8 | 0 | 20 | 0 | 20 |
| 32 | 15 | 5 | 7 | 13 | 0 | 20 | 0 | 20 |
| 33 | 13 | 7 | 10 | 10 | 0 | 20 | 0 | 20 |

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| Patient No. | BCSCs | | non-BCSCs | | NBBCs | | non-NBBCs | |
|-------------|-------|-------|-----------|-------|-------|-------|-----------|-------|
| | C228T | C228C | C228T | C228C | C228T | C228C | C228T | C228C |
| 34 | 17 | 3 | 11 | 9 | 0 | 20 | 0 | 20 |
| 35 | 15 | 5 | 12 | 8 | 0 | 20 | 0 | 20 |
| 36 | 16 | 4 | 10 | 10 | 0 | 20 | 0 | 20 |
| 37 | 12 | 8 | 5 | 15 | 0 | 20 | 0 | 20 |
| 38 | 16 | 4 | 11 | 9 | 0 | 20 | 0 | 20 |
| 39 | 11 | 9 | 10 | 10 | 0 | 20 | 0 | 20 |
| 40 | 17 | 3 | 12 | 8 | 0 | 20 | 0 | 20 |
| 41 | 14 | 6 | 10 | 10 | 0 | 20 | 0 | 20 |
| 42 | 17 | 3 | 11 | 9 | 0 | 20 | 0 | 20 |
| 43 | 12 | 8 | 9 | 11 | 0 | 20 | 0 | 20 |
| 44 | 13 | 7 | 5 | 15 | 0 | 20 | 0 | 20 |
| 45 | 18 | 2 | 13 | 7 | 0 | 20 | 0 | 20 |
| 46 | 14 | 6 | 9 | 11 | 0 | 20 | 0 | 20 |
| 47 | 17 | 3 | 12 | 8 | 0 | 20 | 0 | 20 |
| 48 | 12 | 8 | 9 | 11 | 0 | 20 | 0 | 20 |
| 49 | 15 | 5 | 12 | 8 | 0 | 20 | 0 | 20 |
| 50 | 16 | 4 | 11 | 9 | 0 | 20 | 0 | 20 |
| 51 | 12 | 8 | 7 | 13 | 0 | 20 | 0 | 20 |
| 52 | 17 | 3 | 15 | 5 | 0 | 20 | 0 | 20 |
| 53 | 13 | 7 | 12 | 8 | 0 | 20 | 0 | 20 |
| 54 | 14 | 6 | 11 | 9 | 0 | 20 | 0 | 20 |
| 55 | 12 | 8 | 10 | 10 | 0 | 20 | 0 | 20 |
| 56 | 13 | 7 | 9 | 11 | 0 | 20 | 0 | 20 |
| 57 | 11 | 9 | 8 | 12 | 0 | 20 | 0 | 20 |
| 58 | 14 | 6 | 9 | 11 | 0 | 20 | 0 | 20 |
| 59 | 15 | 5 | 10 | 10 | 0 | 20 | 0 | 20 |
| 60 | 14 | 6 | 7 | 13 | 0 | 20 | 0 | 20 |

Supplementary Table S3. Tumor formation rates from xenografted mice of subpopulation cell types of bladder cancer samples

| Patient No. | 100 cells tumor formation rate (%) | | | | | |
|-------------|------------------------------------|-----------|------------------|-------|-----------|------------------|
| | BCSCs | non-BCSCs | BCSCs (T228C) | NBBCs | non-NBBCs | NBBCs (C228T) |
| 1 | 30 | 0 | 0 | 0 | 0 | 20 |
| 3 | 20 | 0 | 0 | 0 | 0 | 10 |
| 7 | 40 | 0 | 0 | 0 | 0 | 30 |
| 12 | 20 | 0 | 0 | 0 | 0 | 20 |
| 15 | 20 | 0 | 0 | 0 | 0 | 0 |
| 22 | 50 | 0 | 0 | 0 | 0 | 20 |
| 27 | 30 | 0 | 0 | 0 | 0 | 10 |
| 33 | 30 | 0 | 0 | 0 | 0 | 20 |
| 36 | 40 | 0 | 0 | 0 | 0 | 30 |
| 42 | 10 | 0 | 0 | 0 | 0 | 0 |
| 45 | 30 | 0 | 0 | 0 | 0 | 10 |
| 56 | 20 | 0 | 0 | 0 | 0 | 10 |

Supplementary Table S4. Relationship between the expression levels of TERT and clinicopathological features of human bladder cancers

| Total | Patients | Expression of TERT | | | <i>p</i> |
|--------------------|--------------|--------------------|------|------|----------|
| | | High | Low | | |
| Age | Mean | 60.3 | 65.2 | 57.9 | 0.352 |
| Sex | Male | 237 | 109 | 128 | 0.428 |
| | Female | 82 | 37 | 45 | |
| Tumor stage | Ta,Tis,T1 | 186 | 69 | 117 | <0.001 |
| | T2 | 59 | 38 | 21 | |
| | T3 | 45 | 32 | 13 | |
| | T4 | 29 | 23 | 6 | |
| Grade | G1 or 2 | 142 | 54 | 88 | <0.001 |
| | G3 | 177 | 125 | 52 | |
| Configuration | Papillary | 46 | 24 | 22 | 0.708 |
| | Nonpapillary | 273 | 153 | 120 | |
| Number of tumors | Solitary | 252 | 136 | 116 | 0.082 |
| | Multiple | 67 | 24 | 43 | |
| Lymphatic invasion | Negative | 174 | 45 | 129 | <0.001 |
| | Positive | 127 | 85 | 42 | |
| | Unknown | 18 | 11 | 7 | |