

Table SI. Colorimetric result of the semen sample interpreted by the smartphone and the corresponding total motile sperm count

Category: Low TMSC

| | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|-----|----|----|----|-----|-----|---|
| Sample No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | |
| Test strip color | | | | | | | | | | | | | | | | | | | | | | | |
| TMSC | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.2 | 15 | 14 | 13 | 8.7 | 3.3 | |
| Result | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Category: Normal TMSC

| | | | | | | | | | | | | | | | | | | | | | | |
|------------------|----|----|-----|----|-----|----|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|-----|--|--|
| Sample No. | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | | |
| Test strip color | | | | | | | | | | | | | | | | | | | | | | |
| TMSC | 67 | 56 | 248 | 86 | 775 | 67 | 46 | 92 | 122 | 86 | 266 | 140 | 96 | 74 | 41 | 36 | 80 | 58 | 27 | 194 | | |
| Result | ✓ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | | |

TMSC: total motile sperm count

*All the sample colors are changed to the gray scale and subtracted by the blank value