**Table S1. Demographic and clinical features of study subjects for qRT-PCR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | No. | Age, years | LOCUS III grade | Axial length, mm |
| Control | 1 | 59 | NC2 | 23.31 |
| 2 | 57 | NC1 | 23.14 |
| 3 | 58 | NC2 | 22.88 |
| 4 | 54 | NC2 | 23.42 |
| 5 | 62 | NC2 | 22.74 |
| 6 | 52 | NC1 | 22.90 |
| 7 | 59 | NC1 | 23.91 |
| 8 | 62 | NC1 | 22.75 |
| 9 | 61 | NC1 | 23.93 |
| 10 | 50 | NC2 | 24.01 |
| 11 | 69 | NC1 | 23.55 |
| 12 | 66 | NC1 | 22.56 |
| 13 | 67 | NC2 | 23.04 |
| 14 | 61 | NC2 | 23.17 |
| 15 | 59 | NC2 | 24.11 |
| 16 | 69 | NC1 | 23.45 |
| 17 | 67 | NC2 | 22.94 |
| 18 | 63 | NC1 | 23.78 |
| ARC | 1 | 75 | NC5 | 24.15 |
| 2 | 61 | NC5 | 23.15 |
| 3 | 64 | NC6 | 22.97 |
| 4 | 58 | NC6 | 23.38 |
| 5 | 63 | NC5 | 22.76 |
| 6 | 70 | NC6 | 23.53 |
| 7 | 69 | NC5 | 24.02 |
| 8 | 59 | NC5 | 23.26 |
| 9 | 57 | NC6 | 24.17 |
| 10 | 51 | NC6 | 22.53 |
| 11 | 67 | NC5 | 22.74 |
| 12 | 63 | NC5 | 23.95 |
| 13 | 59 | NC6 | 23.77 |
| 14 | 72 | NC5 | 23.84 |
| 15 | 53 | NC6 | 22.94 |
| 16 | 66 | NC6 | 23.41 |
| 17 | 63 | NC5 | 23.29 |
| 18 | 69 | NC6 | 23.68 |

**Table S2. Demographic and clinical features of study subjects for WES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | No. | Age, years | LOCUS III grade | Axial length, mm |
| Control | 1 | 58 | NC1 | 23.33 |
| 2 | 55 | NC2 | 23.67 |
| 3 | 50 | NC1 | 22.22 |
| 4 | 62 | NC2 | 23.83 |
| 5 | 67 | NC2 | 23.27 |
| 6 | 55 | NC1 | 22.98 |
| 7 | 57 | NC2 | 23.81 |
| 8 | 69 | NC2 | 22.38 |
| 9 | 63 | NC1 | 23.02 |
| Nuclear ARC | 1 | 72 | NC6 | 23.18 |
| 2 | 60 | NC5 | 24.65 |
| 3 | 58 | NC6 | 23.27 |
| 4 | 51 | NC6 | 24.03 |
| 5 | 75 | NC5 | 23.61 |
| 6 | 67 | NC6 | 23.62 |
| 7 | 64 | NC5 | 24.00 |
| 8 | 52 | NC5 | 23.17 |
| 9 | 60 | NC6 | 23.58 |