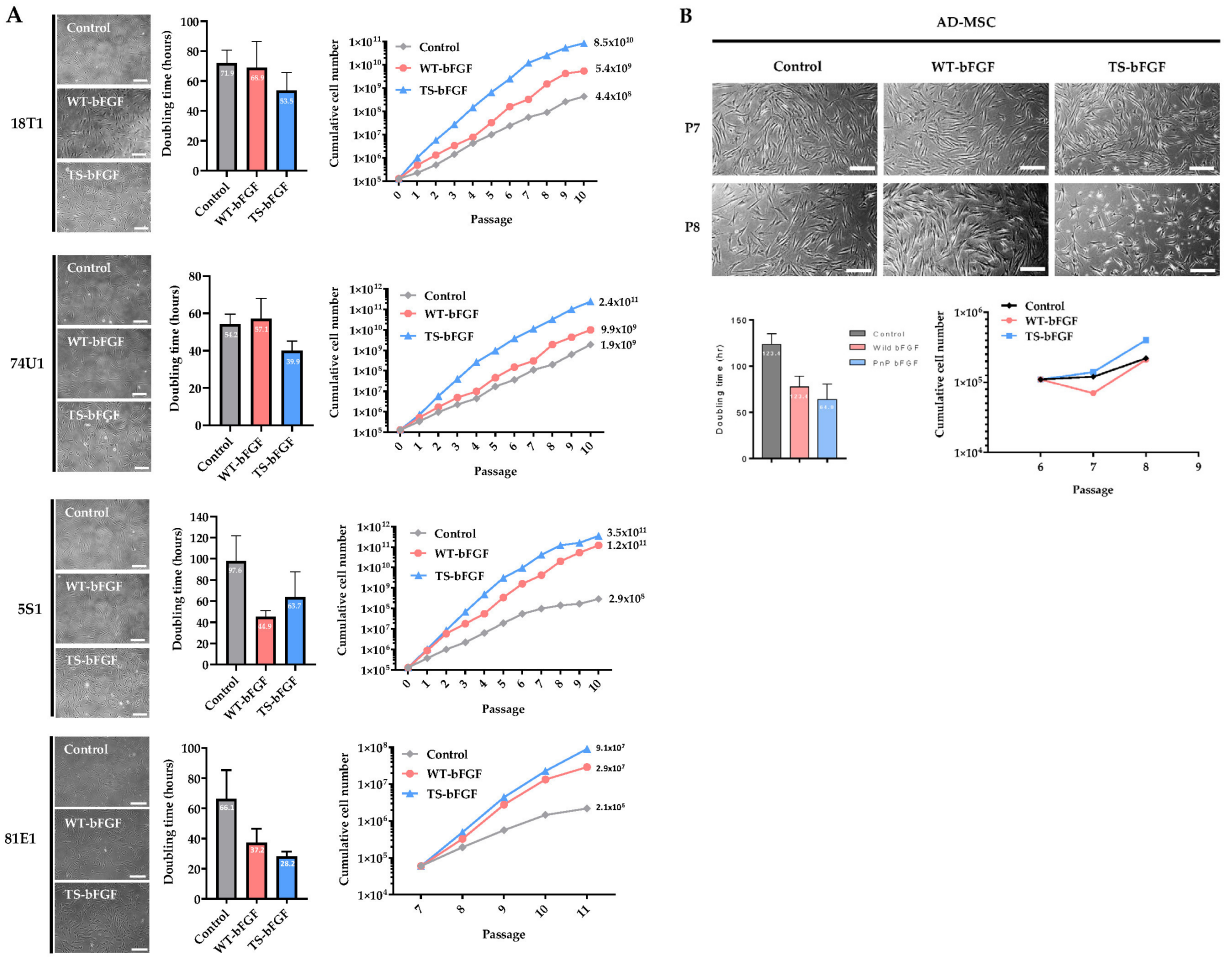
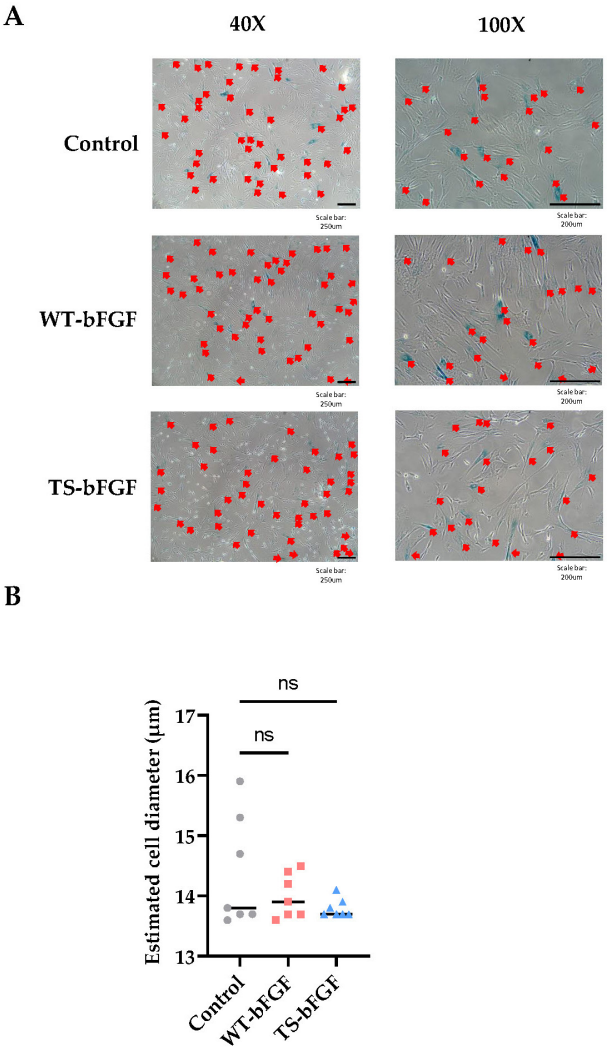
Supplementary Table S1. List of human orbicular oculi muscle and fat tissue samples

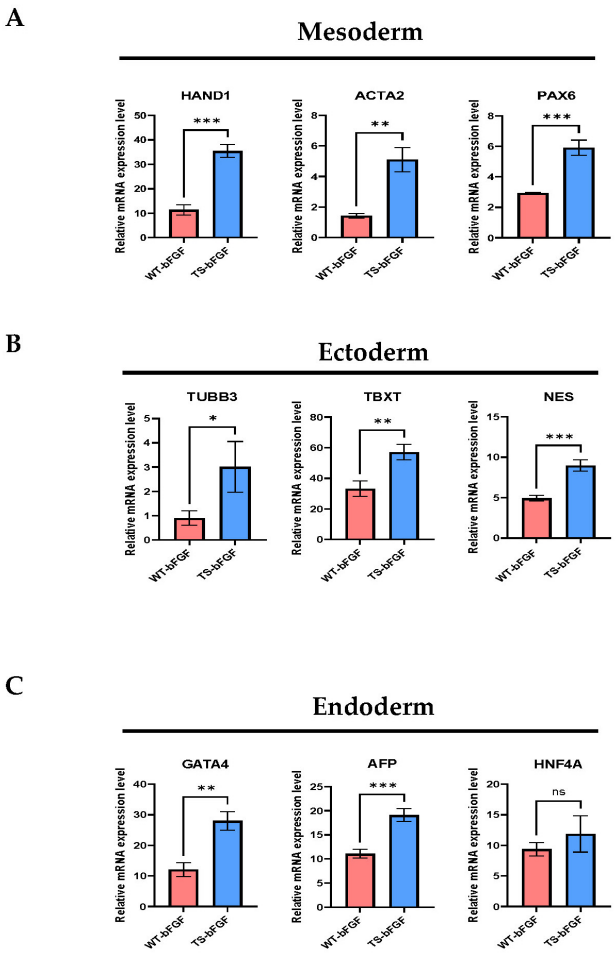
Age (yr)	Sex	Clinical diagnosis	Tissue
5	Male	Epiblepharon	Muscle
5	Female	Entropion	Muscle
18	Male	Ptosis	Muscle
74	Female	Blepharoplasty	Muscle
81	Female	Dermatochalasis	Muscle



Supplementary Fig. S1. Comparative analysis of the effects of TS-bFGF and WT-bFGF in various cell lines. (A) Phase-contrast images (left), doubing time (middle) and cumulative cell numbers (right) of WT-5G1 and TS-5G1 at different passages during continuous cell culture in hOOM-SCs from a various donors. (B) Different passages of phase-contrast images, doubing time, and cumulative cell numbers of WT-5G1 and TS-5G1 at different passages during continuous cell culture in AD-MSC. Scale bar=200 μm. TS-bFGF: thermostable-basic fibroblast growth factor, WT-bFGF: wild-type bFGF, AD-MSC: adipose-derived mesenchymal stem cell.



Supplementary Fig. S2. Anti-senescence effects of WT-bFGF and TS-bFGF during a prolonged cell culture of WJ-MSC and 5G1 cells. (A) SA-β-Gal staining assay of WJ-MSC cells. Red arrows indicate SA-β-Gal-positive stained cells. Scale bars=200 μm. (B) Comparison of the cell size effect in WT-bFGF and TS-bFGF cells. Values are expressed as the mean±SEM of three independent experiments. WT-bFGF: wild-type basic fibroblast growth factor, TS-bFGF: thermostable-bFGF, WJ-MSC: Wharton's Jelly-mesenchymal stem cell, SA-β-Gal: associated-β-galactosidase, ns: not significant.



Supplementary Fig. S3. Comparative evaluation of enhanced differentiation capacity into mesoderm (A) ectoderm (B), and endoderm (C) of WT-bFGF or TS-bFGF-treated 5G1 cells. Values are expressed as the mean±SEM of three independent experiments. WT-bFGF: wild-type basic fibroblast growth factor, TS-bFGF: thermostable-bFGF, ns: not significant, *$p<0.05$, **$p<0.01$, ***$p<0.001$.