RECENT PUBLICATIONS IN TELOMERE RESEARCH

OCTOBER – DECEMBER | QUARTER 4, 2022

A quarterly collection from the Telomere Research Network, featuring recent publications in population-based telomere research

Selection Curated By: Julianne Crawford, Natalie Eng, Madeline Magruder

Primary Research Articles:

Aging

Citation	TL Method(s)	Species Studied (n)
Bolhuis, E., et al. (2022). Attachment insecurity and the biological embedding of reproductive strategies: Investigating the role of cellular aging. *Biological Psychology*, 175: 108446. doi: 10.1016/j.biopsycho.2022.108446.	qPCR	Mother-Child Dyads (193)
Goswami, J. et al. (2022). Telomere Length of Peripheral Blood Mononuclear Cells is Associated with Discharge Disposition in Older Trauma Patients. *Shock (Augusta, Ga.)*, doi: 10.1097/SHK.0000000000002059.	qPCR	Human (81)
Ito, J. et al. (2023). Paternal aging impacts mitochondrial DNA content and telomere length in mouse embryos. *Mitochondrion*, *68*, 105–113. doi: 10.1016/j.mito.2022.12.002.	aTL qPCR	Mouse
Katz, R., et al. (2022). Association of leukocyte telomere length with perceived physical fatigability. *Experimental Gerontology*, *170:* 111988. doi: 10.1016/j.exger.2022.111988.	qPCR	Human (1,997)

Citation	TL Method(s)	Species Studied (n)
Liu, Q., et al. (2022). Mesenchymal stem cells alleviate aging in vitro and in vivo. *Annals of Translational Medicine*, 10(20): 1092. doi: 10.21037/atm-22-1206.	Flow-Fish; qPCR	Mice and Human Cell-Lines
Idrees, M. et al. (2023). Cycloastragenol activation of telomerase improves β-Klotho protein level and attenuates age-related malfunctioning in ovarian tissues. *Mechanisms of Ageing and Development*, *209*, 111756. doi: 10.1016/j.mad.2022.111756.	Q-FISH	Mouse cell lines
Peng, Q. et al. (2022). Genetic Variants in Telomerase Reverse Transcriptase Contribute to Solar Lentigines. *The Journal of Investigative Dermatology*, S0022-202X(22)02846-9. doi: 10.1016/j.jid.2022.11.016.	qPCR	Human (800)
Quiles, J. et al. (2022). In Vitro Determination of the Skin Anti-Aging Potential of Four-Component Plant-Based Ingredient. *Molecules (Basel, Switzerland)*, *27*(22), 8101. doi: 10.3390/molecules27228101.	qPCR	Human cell lines
Vilkeviciute, A. et al. (2022). Relative Leukocyte Telomere Length and Genetic Variants in Telomere-Related Genes and Serum Levels Role in Age-Related Macular Degeneration. *Cells*, 11(23), 3847. doi: 10.3390/cells11233847.	qPCR	Human (519)
Wu, S. et al. (2023). Lifelong docosahexaenoic acid intervention ameliorates aging in the telomere-DNA-mitochondria axis in telomerase-deficient mice. *The Journal of Nutritional Biochemistry*, *112*, 109202. doi: 10.1016/j.jnutbio.2022.109202.	RT-qPCR	Mice

Biomarker

Citation	TL Method(s)	Species Studied (n)
Faugeras, E. et al. (2022). Telomere Status of Advanced Non-Small-Cell Lung Cancer Offers a Novel Promising Prognostic and Predictive Biomarker. *Cancers*, 15(1), 290. doi: 10.3390/cancers15010290.	qPCR	Human (79)
Mesquita, F. C. P. et al. (2022). Polymerized Laminin-521: A Feasible Substrate for Expanding Induced Pluripotent Stem Cells at a Low Protein Concentration. *Cells*, 11(24), 3955. doi: 10.3390/cells11243955.	aTL qPCR	Human (cell line)
Hatse, S., et al. (2022). Impact of baseline telomere length on survival and chemotherapy related toxicity in breast cancer patients receiving (neo)adjuvant anthracycline containing chemotherapy. *Translational Oncology*, 26: 101551. doi: 10.1016/j.tranon.2022.101551.	qPCR	Human (445)
Shin, D. Y. et al. (2022). The importance of critically short telomere in myelodysplastic syndrome. *Biomarker Research*, *10*(1), 79. doi: 10.1186/s40364-022-00426-9.	TeSLA	Human (52)

Cancer

Citation	TL Method(s)	Species Studied (n)
Armando, R. et al. (2022). *In vitro* characterization and rational analog design of a novel inhibitor of telomerase assembly in MDA MB 231 breast cancer cell line. *Oncology Reports*, *48*(5), 188. doi: 10.3892/or.2022.8403.	RT-qPCR	Human cell lines
Afshari, A., et al. (2022). Antiproliferative Effects of Ferulic, Coumaric, and Caffeic Acids in HepG2 Cells by hTERT Downregulation. *Advances in Pharmacological and Pharmaceutical Sciences*, 2022: 1850732. doi: 10.1155/2022/1850732.	qPCR	Cell-Lines
Derenzini, E. et al. (2022). Long telomeres at baseline and male sex are main determinants of telomere loss following chemotherapy exposure in lymphoma patients. *Hematological Oncology*, 10.1002/hon.3118. doi: 10.1002/hon.3118.	Southern Blot	Human (34)
Derrien, A. C. et al. (2022). Functional characterization of 5p15.33 risk locus in uveal melanoma reveals rs452384 as a functional variant and NKX2.4 as an allele-specific interactor. *American Journal of Human Genetics,* 109(12), 2196–2209. doi: 10.1016/j.ajhg.2022.11.004.	qPCR	Human (326)
García-Martínez, S. et al. (2022). Telomere Length and Telomerase Activity in Subcutaneous and Visceral Adipose Tissues from Obese and Non-Obese Patients with and without Colorectal Cancer. *Cancers*, 15(1), 273. doi: 10.3390/cancers15010273.	qPCR	Human (147)
Han, J. et al. (2022). Leukocyte Telomeric G-Tail Length Shortening Is Associated with Esophageal Cancer Recurrence. *Journal of Clinical Medicine*, 11(24), 7385. doi: 10.3390/jcm11247385.	Telomere Hybridization Protection Assay	Human (147)
Li, Y., & Ma, L. (2022). Relationship between telomere length and the prognosis of breast cancer based on estrogen receptor status: A Mendelian randomization study. *Frontiers in Oncology*, 12: 1024772. doi: 10.3389/fonc.2022.1024772.	qPCR	Human (472,174)
Matsuda, Y. et al. (2022). Association of longer telomere length in cancer cells and cancer-associated fibroblasts with worth prognosis. *Journal of the National Cancer Institute*, djac226. doi: 10.1093/jnci/djac226.	QFISH	Human (1434)
Mishra, R. et al. (2022). TGF-β controls stromal telomere length through epigenetic modifications. *3 Biotech*, *12*(11), 290. doi: 10.1007/s13205-022-03346-5.	qPCR	Mouse cell lines
Robbe, P. et al. (2022). Whole-genome sequencing of chronic lymphocytic leukemia identifies subgroups with distinct biological and clinical features. *Nature Genetics*, *54*(11), 1675–1689. doi: 10.1038/s41588-022-01211-y.	MMqPCR	Human (485)
Simonin-Wilmer, I. et al. (2022). Population-based analysis of POT1 variants in a cutaneous melanoma case-control cohort. *Journal of Medical Genetics*. doi: 10.1136/jmg-2022-108776.	aTL qPCR	Human (6226)

Citation	TL Method(s)	Species Studied (n)
Armando, R. et al. (2022). *In vitro* characterization and rational analog design of a novel inhibitor of telomerase assembly in MDA MB 231 breast cancer cell line. *Oncology Reports*, *48*(5), 188. doi: 10.3892/or.2022.8403.	RT-qPCR	Human cell lines
Slusher, A. L., et al. (2022). Intronic Cis-Element DR8 in hTERT Is Bound by Splicing Factor SF3B4 and Regulates hTERT Splicing in Non-Small Cell Lung Cancer. *Molecular Cancer Research: MCR*, 20(10): 1574–1588. doi: 10.1158/1541-7786.MCR-21-0058.	TRF	Cell-Lines
González-Giraldo, Y. et al. (2022). TERT silencing alters the expression of ARG1, GLUL, VIM, NES genes and hsa-miR-29b-3p in the T98G cell line. *Nucleosides, Nucleotides & Nucleic Acids*, 1–14. doi: 10.1080/15257770.2022.2155301.	Flow-FISH	Human (cell line)
Lai, T. P., et al: (2022). Decoupling blood telomere length from age in recipients of allogeneic hematopoietic cell transplant in the BMT-CTN 1202. *Frontiers in Immunology*, 13: 966301. doi: 10.3389/fimmu.2022.966301.	TRF; TeSLA; qPCR	Human

Early Life Development

Citation	TL Method(s)	Species Studied (n)
Bolhuis, E. et al. (2022). Attachment insecurity and the biological embedding of reproductive strategies: Investigating the role of cellular aging. *Biological Psychology*, *175*, 108446. doi: 10.1016/j.biopsycho.2022.108446.	qPCR	Human (386)
de Mendonça Filho, E. J., et al. (2022). Examining attachment, cortisol secretion, and cognitive neurodevelopment in preschoolers and its predictive value for telomere length at age seven. *Frontiers in Behavioral Neuroscience*, 16: 954977. doi: 10.3389/fnbeh.2022.954977.	MMqPCR	Human (107)
Farrukh, S. et al. (2022). Parental Genetics Communicate with Intrauterine Environment to Reprogram Newborn Telomeres and Immunity. *Cells*, *11*(23), 3777. doi: 10.3390/cells11233777.	qPCR	Human (312)
Toupance, S. et al. (2022). Longitudinal Association of Telomere Dynamics with Obesity and Metabolic Disorders in Young Children. *Nutrients*, 14(23), 5191. doi: 10.3390/nu14235191.	Southern Blot	Human (73)
Wang, C., et al. (2022). Genetic regulation of newborn telomere length is mediated and modified by DNA methylation. *Frontiers in Genetics*, 13(934277). doi: 10.3389/fgene.2022.934277.	qPCR	Mother-Newborn Pairs (281)
Wong, K. K. et al. (2022). Early emergence of sexual dimorphism in offspring leukocyte telomere length was associated with maternal and children's glucose metabolism-a longitudinal study. *BMC Medicine*, 20(1), 490. doi: 10.1186/s12916-022-02687-5.	qPCR	Human (1683)

Environmental Exposure

Citation	TL Method(s)	Species Studied (n)
D'Cruz, S. C., et al. (2022). Genome-wide distribution of histone trimethylation reveals a global impact of bisphenol A on telomeric binding proteins and histone acetyltransferase factors: a pilot study with human and in vitro data. *Clinical Epigenetics*, 14(1), 186. doi: 10.1186/s13148-022-01408-2.	Protein Measurment	Human (10) and cell line
Li, X., et al. (2022). Sex-specific associations between legacy and novel per- and polyfluoroalkyl substances and telomere length in newborns in Wuhan, China: Mixture and single pollutant associations. *The Science of the Total Environment*, 857(3): 159676. doi: 10.1016/j.scitotenv.2022.159676.	MMqPCR	Mother-Newborn Pairs (908)
Liu, Y. et al. (2022). Association between rare earth element exposure during pregnancy and newborn telomere length. *Environmental Science and Pollution Research International*, 10.1007/s11356-022-24958-7. doi: 10.1007/s11356-022-24958-7.	qPCR	Human (587)
Nasiri, L. et al. (2023). Increased serum lipofuscin associated with leukocyte telomere shortening in veterans: a possible role for sulfur mustard exposure in delayed-onset accelerated cellular senescence. *International Immunopharmacology*, 114, 109549. doi: 10.1016/j.intimp.2022.109549.	MMqPCR	Human (89)
Ni, W. et al. (2022). Higher Daily Air Temperature Is Associated with Shorter Leukocyte Telomere Length: KORA F3 and KORA F4. *Environmental Science & Technology*, *56*(24), 17815–17824. doi: 10.1021/acs.est.2c04486.	qPCR	Human (5864)
Zhang, J. C., et al. (2022). Urinary cadmium and peripheral blood telomere length predict the risk of renal function impairment: a study of 547 community residents of Shanxi, China. *Environmental Science and Pollution Research International*, 29(47): 71427–71438. doi: 10.1007/s11356-022-20923-6.	aTL qPCR	Human (457)
Tang, P., et al. (2022). Associations between prenatal multiple plasma metal exposure and newborn telomere length: Effect modification by maternal age and infant sex. *Environmental Pollution (Barking, Essex : 1987)*, *315:* 120451. doi: 10.1016/j.envpol.2022.120451.	qPCR	Mother-Newborn Pairs (1,313)
Van Der Stukken, C. et al. (2023). The association between ambient particulate matter exposure and the telomere-mitochondrial axis of aging in newborns. *Environment International*, 171, 107695. doi: 10.1016/j.envint.2022.107695.	MMqPCR	Human (556)

Health Disparities

Citation	TL Method(s)	Species Studied (n)
Kertes, D. A. et al. (2022). Demographic and health predictors of telomere length during adolescence. *Developmental Psychobiology*, *64*(7), e22311. doi: 10.1002/dev.22311.	qPCR	Human (899)
Roberts, E. K. et al. (2022). Persistent organic pollutant exposure contributes to Black/White differences in leukocyte telomere length in the National Health and Nutrition Examination Survey. *Scientific Reports*, *12*(1), 19960. doi: 10.1038/s41598-022-24316-0.	qPCR	Human (1251)
Mayer, S. E. et al. (2022). Intergenerational effects of maternal lifetime stressor exposure on offspring telomere length in Black and White women. *Psychological Medicine*, 1–12. doi: 10.1017/S0033291722003397.	qPCR	Human (222)

Lifestyle and Social environment

Citation	TL Method(s)	Species Studied (n)
Barbosa, A. R. C., et al. (2022). Association of Social Support Network with Telomere Length: A Cross-Sectional Study with Community-Dwelling Older Adults. *Rejuvenation Research*, 26(6): 253-259. doi: 10.1089/rej.2022.0037.	MMqPCR	Human (448)
Li, X. et al. (2022). Doxycycline Attenuated Ethanol-Induced Inflammaging in Endothelial Cells: Implications in Alcohol-Mediated Vascular Diseases. *Antioxidants (Basel, Switzerland)*, 11(12), 2413. doi: 10.3390/antiox11122413.	qPCR	Cell Line
Sung, M. K., et al. (2022). Three months-longitudinal changes in relative telomere length, blood chemistries, and self-report questionnaires in meditation practitioners compared to novice individuals during midlife. *Medicine*, 101(41): e30930. doi: 10.1097/MD.0000000000030930.	MMqPCR	Human (38)
Suutari-Jääskö, A. et al. (2022). Smoking cessation and obesity-related morbidities and mortality in a 20-year follow-up study. *PloS One*, 17(12). doi: 10.1371/journal.pone.0279443.	MMqPCR	Human (600)

Mental Illness and Psychopathology

Citation	TL Method(s)	Species Studied (n)
Martinez, D. et al. (2022). Shorter telomere length and suicidal ideation in familial bipolar disorder. *PloS One*, 17(12), e0275999. doi: 10.1371/journal.pone.0275999.	qPCR	Human (143)
Ryan, K. M., et al. (2023). Whole blood mitochondrial DNA copy number in depression and response to electroconvulsive therapy. *Progress in Neuro-psychopharmacology & Biological Psychiatry*, 121: 110656. doi: 10.1016/j.pnpbp.2022.110656.	qPCR	Human (189)
Spano, L., et al. (2022). Telomere length and mitochondrial DNA copy number in bipolar disorder: A sibling study. *The World Journal of Biological Psychiatry: The Official Journal of the World Federation of Societies of Biological Psychiatry:* 1–8. doi: 10.1080/15622975.2022.2131907.	qPCR	Human (134)
Squassina, A., et al. (2022). Analysis on in vitro effect of lithium on telomere length in lymphoblastoid cell lines from bipolar disorder patients with different clinical response to long-term lithium treatment. *Human Genomics*, 16(1): 45. doi: 10.1186/s40246-022-00418-8.	qPCR	Cell-Lines
Takemura, Y., et al. (2022). Epigenetic clock analysis in methamphetamine dependence. *Psychiatry Research*, 317: 114901. doi: 10.1016/j.psychres.2022.114901.	TRF	Human (48)

Methodology

Citation	TL Method(s)	Species Studied (n)
Castro-Diehl, C., et al. (2022). Prediction of telomere length and telomere attrition using a genetic risk score: The multi-ethnic study of atherosclerosis (MESA). *Frontiers in Aging*, 3: 1021051. doi: 10.3389/fragi.2022.1021051.	qPCR	Human (1,227)
Guh, C. Y., et al. (2022). XPF activates break-induced telomere synthesis. *Nature Communications*, 13(1): 5781. doi: 10.1038/s41467-022-33428-0.	qPCR	Cell-lines

Nutrition

Citation	TL Method(s)	Species Studied (n)
Bussa, R. M. et al. (2023). Vitamin D status and leukocyte telomere length in middle childhood. *European Journal of Clinical Nutrition*, *77*(2), 295–297. doi: 10.1038/s41430-022-01236-w.	qPCR	Human (447)
Cancello, R., et al. (2022). Telomere Length and Mitochondrial DNA Copy Number Variations in Patients with Obesity: Effect of Diet-Induced Weight Loss-A Pilot Study. *Nutrients,* 14(20): 4293. doi: 10.3390/nu14204293.	qPCR	Human (20)
Nonsa-Ard, R., Aneknan, P. et al. (2022). Effects of *Irvingia gabonensis* Extract on Metabolism, Antioxidants, Adipocytokines, Telomere Length, and Aerobic Capacity in Overweight/Obese Individuals. *Nutrients*, *14*(21), 4646. doi: 10.3390/nu14214646.	qPCR	Human (66)
Shi, H. et al. (2022). Potential effect of dietary zinc intake on telomere length: A cross-sectional study of US adults. *Frontiers in Nutrition*, *9*, 993425. doi: 10.3389/fnut.2022.993425.	qPCR	Human (3793)
Zhang, Y. et al. (2023). Dietary selenium excess affected spermatogenesis via DNA damage and telomere-related cell senescence and apoptosis in mice. *Food and Chemical Toxicology : an International Journal Published for the British Industrial Biological Research Association*, 171, 113556. doi: 10.1016/j.fct.2022.113556.	qPCR	Mice (40)

Physiology & Pathophysiology

Cardiovascular

Citation	TL Method(s)	Species Studied (n)
Aschacher, T. et al. (2022). Impacts of Telomeric Length, Chronic Hypoxia, Senescence, and Senescence-Associated Secretory Phenotype on the Development of Thoracic Aortic Aneurysm. *International Journal of Molecular Sciences*, 23(24), 15498. doi: 10.3390/ijms232415498.	qPCR	Human (215)
Deng, Y., et al. (2022). Telomere length and the risk of cardiovascular diseases: A Mendelian randomization study. *Frontiers in Cardiovascular Medicine*, 9 (1012615). doi: 10.3389/fcvm.2022.1012615.	qPCR	Human (472,174)
Ding, F., et al. (2022). circHIPK3 prevents cardiac senescence by acting as a scaffold to recruit ubiquitin ligase to degrade HuR. *Theranostics*, 12(17): 7550–7566. doi: 10.7150/thno.77630.	qPCR	Mice
Dlouha, D., et al. (2022). Posttransplant Complications and Genetic Loci Involved in Telomere Maintenance in Heart Transplant Patients. *Genes*, 13(10): 1855. doi: 10.3390/genes13101855.	qPCR	Human (383)
Liu, Y., et al. (2022). Longer Leukocyte Telomere Length Increases the Risk of Atrial Fibrillation: A Mendelian Randomization Study. *Aging and Disease*, 13(5): 1311–1313. doi: 10.14336/AD.2022.02251.	TRF; MMqPCR	Human (22,068)
Oldershaw, R. A. (2022). Cardiac Mesenchymal Stem Cell-like Cells Derived from a Young Patient with Bicuspid Aortic Valve Disease Have a Prematurely Aged Phenotype. *Biomedicines*, 10(12), 3143. doi: 10.3390/biomedicines10123143.	TeloTAGGG	Human/Cell line
Sanchez, M., et al. (2022). Leukocyte telomere length, allelic variations in related genes and risk of coronary heart disease in people with long-standing type 1 diabetes. *Cardiovascular Diabetology*, 21(1): 206. doi: 10.1186/s12933-022-01635-0.	qPCR	Cell Lines
Wang, J. et al. (2022). Causality of telomere length associated with calcific aortic valvular stenosis: A Mendelian randomization study. *Frontiers in Medicine*, 9, 1077686. doi: 10.3389/fmed.2022.1077686.	qPCR	Human (472,174)
Liang, Z., et al. (2022). Changes in Telomere Length and Indicators of Oxidative Stress in Critically Ill Mechanically Ventilated Adults - A Pilot Study. *Biological Research for Nursing*, 10998004221133395. doi: 10.1177/10998004221133395.	qPCR	Human (25)

Telomere Biology Disorders

Citation	TL Method(s)	Species Studied (n)
Chu, C. M., et al. (2022). A missense variant in the nuclear localization signal of DKC1 causes Hoyeraal-Hreidarsson syndrome. *NPJ Genomic Medicine*, 7(1): 64. doi: 10.1038/s41525-022-00335-8.	TRF	Human
Clé, D. V. et al. (2022). Effects of nandrolone decanoate on telomere length and clinical outcome in patients with telomeropathies: a prospective trial. *Haematologica*. doi: 10.3324/haematol.2022.281808.	Flow-FISH	Human (17)
Kocyigit, I., et al. (2022). Predicting Progression of Autosomal Dominant Polycystic Kidney Disease by Changes in the Telomeric Epigenome. *Cells*, 11(20): 3300. doi: 10.3390/cells11203300.	aTL qPCR	Human (98)
Picos-Cárdenas, V. J. et al. (2022). Novel *TINF2* gene mutation in dyskeratosis congenita with extremely short telomeres: A case report. *World Journal of Clinical Cases*, *10*(33), 12440–12446. doi: 10.12998/wjcc.v10.i33.12440.	qPCR	Human (1)

Endocrinological

Citation	TL Method(s)	Species Studied (n)
Raftopoulou, C., et al. (2022). Leukocyte Telomere Length in Children with Congenital Adrenal Hyperplasia. *The Journal of Clinical Endocrinology and Metabolism*, 108(2): 443-452. doi: 10.1210/clinem/dgac560.	qPCR	Human (76)
Yu, H. J. et al. (2023). Salivary telomere length and the risks of prediabetes and diabetes among middle-aged and older adults: findings from the Health and Retirement Study. *Acta Diabetologica*, *60*(2), 273–283. doi: 10.1007/s00592-022-02004-9.	qPCR	Human (3379)
Pölönen, J. et al. (2022). Polycystic ovary syndrome and leukocyte telomere length: cross-sectional and longitudinal changes. *European Journal of Endocrinology*, *187*(5), 651–661. doi: 10.1530/EJE-22-0462.	MMqPCR	Human (2775)
Lan, B. et al. (2022). Independent and joint effect of relative telomere length and type 2 diabetes on all-cause mortality in American adults. *Frontiers in Endocrinology*, *13*, 1035017. doi: 10.3389/fendo.2022.1035017.	qPCR	Human (6862)

Immunology and Autoimmune

Citation	TL Method(s)	Species Studied (n)
Beranek, M., et al. (2022). Telomere length, oxidative and epigenetic changes in blood DNA of patients with exacerbated psoriasis vulgaris. *Anais Brasileiros de Dermatologia*, S0365-0596(22): 00233-1. doi: 10.1016/j.abd.2022.01.008.	qPCR	Human (71)
Curtis, E. M., et al. (2022). Telomere Length and Risk of Incident Fracture and Arthroplasty: Findings From UK Biobank. *Journal of Bone and Mineral Research : the Official Journal of the American Society for Bone and Mineral Research*, 37(10): 1997–2004. doi: 10.1002/jbmr.4664.	MMqPCR	Human (111,395)
Gutierrez-Rodrigues, F. et al. (2022). Differential diagnosis of bone marrow failure syndromes guided by machine learning. *Blood*. doi: 10.1182/blood.2022017518.	Flow-FISH	Human (359)
Lv, Z., Cui, J., & Zhang, J. (2022). Associations between serum urate and telomere length and inflammation markers: Evidence from UK Biobank cohort. *Frontiers in immunology*, *13*, 1065739. doi: 10.3389/fimmu.2022.1065739.	qPCR	Human (288,649)
Al Khleifat, A. et al. (2022). Telomere length analysis in amyotrophic lateral sclerosis using large-scale whole genome sequence data. *Frontiers in Cellular Neuroscience*, 16, 1050596. doi: 10.3389/fncel.2022.1050596.	TelSeq	Human (6,195)

Neurological

Citation	TL Method(s)	Species Studied (n)
Asghar, M., et al. (2022). Mitochondrial biogenesis, telomere length and cellular senescence in Parkinson's disease and Lewy body dementia. *Scientific Reports*, 12(1): 17578. doi: 10.1038/s41598-022-22400-z.	qPCR	Human (112)
Ask, T. F., & Sütterlin, S. (2022). Prefrontally modulated vagal neuroimmunomodulation is associated with telomere length. *Frontiers in Neuroscience*, *16*, 1063162. doi: 10.3389/fnins.2022.1063162.	aTL qPCR	Human (131)
Safaee, M. M. et al. (2022). Association of telomere length with risk of complications in adult spinal deformity surgery: a pilot study of 43 patients. *Journal of Neurosurgery. Spine*, 1–9. doi: 10.3171/2022.10.SPINE22605.	qPCR	Human (43)
Salih, A. et al. (2022). Telomere length is causally connected to brain MRI image derived phenotypes: A mendelian randomization study. *PloS One*, *17*(11), e0277344. doi: 10.1371/journal.pone.0277344.	PCR	Human (3935)
Scarabino, D. et al. (2022). Leukocyte Telomere Length as Potential Biomarker of HD Progression: A Follow-Up Study. *International Journal of Molecular Sciences*, *23*(21), 13449. doi: 10.3390/ijms232113449.	qPCR	Human (45)

Reproduction

Citation	TL Method(s)	Species Studied (n)
Cozzolino, M., & Seli, E. (2022). Mitochondrial dysfunction caused by targeted deletion of Mfn1 does not result in telomere shortening in oocytes. *Zygote (Cambridge, England)*, 30(5): 735–737. doi: 10.1017/S0967199422000089.	qPCR	Mice (6)
Fan, G., et al. (2022). Association of maternal folic acid supplementation during pregnancy with newborn telomere length. *Reproductive Toxicology (Elmsford, N.Y.)*, 114*:* 52–56. doi: 10.1016/j.reprotox.2022.10.006.	MMqPCR	Mother-Newborn Pairs (746)
He, C., et al. (2022). Low-dose telomerase is required for the expansion and migration of placental mesenchymal stem cells. *Biochemical and Biophysical Research Communications*, 636(2): 40–47. doi: 10.1016/j.bbrc.2022.10.093.	Flow-Fish; qPCR	Cell-Lines
Liu, C. et al. (2023). Blood trihalomethane concentrations in relation to sperm mitochondrial DNA copy number and telomere length among 958 healthy men. *Environmental Research*, *216*(Pt 4), 114737. doi: 10.1016/j.envres.2022.114737.	RT-qPCR	Human (958)
Zhu, X. et al. (2022). N6-methyladenosine modification on Hmbox1 is related to telomere dysfunction in DEHP-induced male reproductive injury. *Life Sciences*, *309*, 121005. doi: 10.1016/j.lfs.2022.121005.	RT-qPCR	Mice (40)
Wang, C. et al. (2022). Leukocyte telomere length in children born following blastocyst-stage embryo transfer. *Nature Medicine*, 28(12), 2646–2653. doi: 10.1038/s41591-022-02108-3.	qPCR	Human (1137)
Yang, X. et al. (2022). Placental telomere length shortening is not associated with severe preeclampsia but the gestational age. *Aging,* 14. doi: 10.18632/aging.204445.	qPCR	Human (224)
Baser, E., et al. (2022). Placental and Umbilical Cord Blood Oxidative Stress Level and Telomere Homeostasis in Early Onset Severe Preeclampsia. *Zeitschrift fur Geburtshilfe und Neonatologie.* doi: 10.1055/a-1938-0010.	qPCR	Human (27)

Respiratory

Citation	TL Method(s)	Species Studied (n)
Hoffman, T. W. et al. (2022). Extrapulmonary manifestations of a telomere syndrome in patients with idiopathic pulmonary fibrosis are associated with decreased survival. *Respirology (Carlton, Vic.)*, *27*(11), 959–965. doi: 10.1111/resp.14264.	qPCR	Human (409)
Macek, P., et al. (2022). Genetic Variants of the TERT Gene and Telomere Length in Obstructive Sleep Apnea. *Biomedicines*, 10(11): 2755. doi: 10.3390/biomedicines10112755.	qPCR	Human (149)
Nonsa-Ard, R. et al. (2022). Telomere Length Is Correlated with Resting Metabolic Rate and Aerobic Capacity in Women: A Cross-Sectional Study. *International Journal of Molecular Sciences*, *23*(21), 13336. doi: 10.3390/ijms232113336.	qPCR	Human (134)
Zhang, D. et al. (2022). Utility of whole genome sequencing in assessing risk and clinically relevant outcomes for pulmonary fibrosis. *The European Respiratory Journal*, 60(6), 2200577. doi: 10.1183/13993003.00577-2022.	qPCR	Human (949)

Infectious Diseases

Citation	TL Method(s)	Species Studied (n)
Chico-Sordo, L. et al. (2022). Telomeres and oocyte maturation rate are not reduced by COVID-19 except in severe cases. *Reproduction (Cambridge, England)*, *164*(5), 259–267. doi: 10.1530/REP-22-0243.	Q-FISH	Human (65)
Hu, J. et al. (2022). Reverse causal relationship between periodontitis and shortened telomere length: Bidirectional two-sample Mendelian random analysis. *Frontiers in Immunology*, 13, 1057602. doi. 10.3389/fimmu.2022.1057602.	qPCR	Human (506,594)
Reeves, J. et al. (2022). Accelerated ageing is associated with increased COVID-19 severity and differences across ethnic groups may exist. *Frontiers in Public Health*, *10*, 1034227. doi: 10.3389/fpubh.2022.1034227.	qPCR	Human (27909)

Stress and Trauma

Citation	TL Method(s)	Species Studied (n)
Beijers, R. et al. (2022). Cumulative risk exposure and child cellular aging in a Dutch low-risk community sample. *Psychophysiology*, e14205. doi: 10.1111/psyp.14205	RT-PCR	Human (193)
Iannarelli, N. J., et al. (2022). No Mediation Effect of Telomere Length or Mitochondrial DNA Copy Number on the Association Between Adverse Childhood Experiences (ACEs) and Central Arterial Stiffness. *Journal of the American Heart Association*, 11(21): e026619. doi: 10.1161/JAHA.122.026619.	qPCR	Human (102)

Reviews & Meta-Analyses:

Alder, J. K., & Armanios, M. (2022). Telomere-mediated lung disease. *Physiological Reviews*, 102(4): 1703–1720. doi: 10.1152/physrev.00046.2021.

Aviv A. (2022). The bullwhip effect, T-cell telomeres, and SARS-CoV-2. *The Lancet*. Healthy longevity, 3(10): e715–e721. doi: 10.1016/S2666-7568(22)00190-8.

Carvalho, V. S., et al. (2022). Recent advances in understanding telomere diseases. *Faculty Reviews*, 11: 31. doi: 10.12703/r/11-31.

Dondoladze, K., et al. (2022). Effect of Radiation on Aging Processes and Telomere Length. *Problemy Radiatsiinoi Medytsyny ta Radiobiolohii*, 27*,* 107-119. Doi: 10.33145/2304-8336-2022-27-107-119.

Dong, S., et al. (2022). Testicular aging, male fertility and beyond. *Frontiers in Endocrinology*, 13: 1012119. doi: 10.3389/fendo.2022.1012119.

Gao, X., et al. (2022). Telomeres and Mitochondrial Metabolism: Implications for Cellular Senescence and Age-related Diseases. *Stem Cell Reviews and Reports*, 18(7): 2315–2327. doi: 10.1007/s12015-022-10370-8.

Hassani, M. A., et al. (2022). Regulator of telomere elongation helicase 1 gene and its association with malignancy. *Cancer Reports (Hoboken, N.J.)*, 6(1): e1735. doi: 10.1002/cnr2.1735.

Kivimäki, M., et al. (2023). The multiple roles of life stress in metabolic disorders. *Nature Reviews. Endocrinology*, 19(1): 10–27. doi: 10.1038/s41574-022-00746-8.

Ray, M. (2022). Epigenomic Links Between Social Determinants of Health and Symptoms: A Scoping Review. *Biological Research for Nursing*. doi: 10.1177/10998004221147300.

Sagris, M. et al. (2022). Telomere Length: A Cardiovascular Biomarker and a Novel Therapeutic Target. *International Journal of Molecular Sciences*, 23(24), 16010. doi: 10.3390/ijms232416010.

Savage S. A. (2022). Dyskeratosis congenita and telomere biology disorders. *Hematology. American Society of Hematology. Education program, 2022*(1), 637-648. doi: 10.1182/hematology.2022000394.

Sheikh-Wu, S. F., et al. (2022). The Relationship Between Telomeres, Cognition, Mood, and Physical Function: A Systematic Review. *Biological Research for Nursing*: 10998004221132287. doi: 10.1177/10998004221132287.

Shi, Z., et al. (2022). Argininosuccinate lyase drives activation of mutant TERT promoter in glioblastomas. *Molecular Cell,* 82(20): 3919–3931.e7. doi: 10.1016/j.molcel.2022.09.024.

Siopis, G., & Porter, J. (2022). Contribution of Biological Age-Predictive Biomarkers to Nutrition Research: A Systematic Review of the Current Evidence and Implications for Future Research and Clinical Practice. *Advances in Nutrition (Bethesda, Md.)*, 13(5): 1930–1946. doi: 10.1093/advances/nmac060.