

Bone Resorption Assay Kit 使用論文

RAW264、RAW264.7

- 1) Kim JL, Osteoblastogenesis and osteoprotection enhanced by flavonolignan silibinin in osteoblasts and osteoclasts. J Cell Biochem. 2012, 113(1):247-59. PMID: 21898547
- 2) Tanaka H, Nicotine affects bone resorption and suppresses the expression of cathepsin K, MMP-9 and vacuolar-type H(+)-ATPase d2 and actin organization in osteoclasts. PLoS One. 2013, 8(3):e59402. PMID: 23555029
- 3) Sapkota M, Bromo-honaucin A inhibits osteoclastogenic differentiation in RAW 264.7 cells via Akt and ERK signaling pathways. Eur J Pharmacol, 2015, 769:100-9. PMID: 26550952
- 4) Choe CH, Transmembrane protein 173 inhibits RANKL-induced osteoclast differentiation. FEBS Lett. 2015, 589(7):836-41. PMID: 25728277
- 5) Li L, Herbacetin inhibits RANKL-mediated osteoclastogenesis in vitro and prevents inflammatory bone loss in vivo. Eur J Pharmacol. 2016, 777:17-25. PMID: 26923730
- 6) Shiota J, Iguratimod, a Disease-Modifying Anti-Rheumatic Drug, Inhibits Osteoclastogenesis and Bone Resorption through Suppression of the Nuclear Factor of Activated T Cells Signaling Pathway. Open Journal of Rheumatology and Autoimmune Diseases, 2016, 6, 106-119
- 7) Qiu ZC, Discovery of a New Class of Cathepsin K Inhibitors in Rhizoma Drynariae as Potential Candidates for the Treatment of Osteoporosis. Int J Mol Sci. 2016, 17(12):2116. PMID: 27999266
- 8) Ishikawa S., Inductive Effect of Palmatine on Apoptosis in RAW 264.7 Cells. Evid Based Complement Alternat Med, 2016, 2016:7262054. PMID: 27340419
- 9) Lee SH, Anti-Osteoclastic Activity of Artemisia capillaris Thunb. Extract Depends upon Attenuation of Osteoclast Differentiation and Bone Resorption-Associated

Acidification Due to Chlorogenic Acid, Hyperoside, and Scoparone. *Int J Mol Sci.* 2017, 18(2) 322. PMID: 28165389

- 10) Lee DH, Nutrikinetics of Isoflavone Metabolites After Fermented Soybean Product (Cheonggukjang) Ingestion in Ovariectomized Mice. *Mol Nutr Food Res.* 2017, 61(12). PMID: 28981201
- 11) Funaki Y, Resolvin E1 Inhibits Osteoclastogenesis and Bone Resorption by Suppressing IL-17-induced RANKL Expression in Osteoblasts and RANKL-induced Osteoclast Differentiation. *Yonago Acta Med.* 2018, 61(1):8-18. PMID: 29599617
- 12) Chu G, Punicagin inhibits RANKL-induced osteoclastogenesis by suppressing NF- κ B and MAPK signaling pathways. *Int J Clin Exp Med* 2018;11(7):6571-6582.
- 13) Sapkota M, Thymol inhibits RANKL-induced osteoclastogenesis in RAW264.7 and BMM cells and LPS-induced bone loss in mice. *Food Chem Toxicol*, 2018, 120:418-429. PMID: 30048646
- 14) Na S, Dose analysis of photobiomodulation therapy on osteoblast, osteoclast, and osteocyte. *J Biomed Opt*, 2018, 23(7):1-8. PMID: 30030913
- 15) Kim S., Ecklonia cava Extract Containing Dieckol Suppresses RANKL-Induced Osteoclastogenesis via MAP Kinase/NF- κ B Pathway Inhibition and Heme Oxygenase-1 Induction. *J Microbiol Biotechnol.* 2019, 29(1):11-20. PMID: 30518021
- 16) Watahiki A, Deficiency of Lipin2 Results in Enhanced NF- κ B Signaling and Osteoclast Formation in RAW-D Murine Macrophages. *Int J Mol Sci*, 2021, 22(6):2893. PMID: 33809261
- 17) Zang L, 10-Gingerol Suppresses Osteoclastogenesis in RAW264.7 Cells and Zebrafish Osteoporotic Scales. *Front Cell Dev Biol*, 2021 9:588093. PMID: 33748100
- 18) Akashi Y, Cyclic Pressure-Induced Cytokines from Gingival Fibroblasts Stimulate Osteoclast Activity: Clinical Implications for Alveolar Bone Loss in Denture Wearers. *J Prosthodont Res*, 2022. PMID: 35185110

- 19) Mohamad Hazir NS, Changes in Metabolism and Mitochondrial Bioenergetics during Polyethylene-Induced Osteoclastogenesis. *Int J Mol Sci.* 2022, 23(15): 8331. PMID: 35955464
- 20) Ding L, Ginsenoside compound-K attenuates OVX-induced osteoporosis via the suppression of RANKL-induced osteoclastogenesis and oxidative stress. *Nat Prod Bioprospect*, 2023, 13(1):49. PMID: 37940733
- 21) Urabe F., Metastatic prostate cancer-derived extracellular vesicles facilitate osteoclastogenesis by transferring the CDCP1 protein. *J Extracell Vesicles*, 2023, 12(3):e12312. PMID: 36880252
- 22) Rabjohns EM., Aged G Protein-Coupled Receptor Kinase 3 (Grk3)-Deficient Mice Exhibit Enhanced Osteoclastogenesis and Develop Bone Lesions Analogous to Human Paget's Disease of Bone. *Cells*, 2023, 12(7):981. PMID: 37048054
- 23) Kim SK., Histone Deacetylase 6 Inhibitor CKD-WID Suppressed Monosodium Urate-Induced Osteoclast Formation by Blocking Calcineurin-NFAT Pathway in RAW 264.7 Cells. *Pharmaceuticals (Basel)*, 2023, 16(3):446. PMID: 36986544
- 24) Feldman G., Geranylgeraniol (GGOH), incorporated into a bone cement pellet promotes osteoclast function and healing in a model of medication-related osteonecrosis of the jaw. *J Oral Biol Craniofac Res*, 2024, 14(2):126-132. PMID: 38327595
- 25) Dong J., Mechanistic study on the alleviation of postmenopausal osteoporosis by *Lactobacillus acidophilus* through butyrate-mediated inhibition of osteoclast activity. *Sci Rep*, 2024, 14(1):7042. PMID: 38528074
- 26) Liao R, Matrix-bound nanovesicles alleviate particulate-induced periprosthetic osteolysis. *Sci Adv*, 2024, 10(42):eadn1852. PMID: 39423278
- 27) Leikina E, Formation of multinucleated osteoclasts depends on an oxidized species of cell surface-associated La protein. *Elife*, 13:RP98665. PMID: 39356057

Bone marrow-derived macrophages

- 1) Nishida H, Blockade of CD26 signaling inhibits human osteoclast development. *J Bone Miner Res*, 2014, 29(11):2439-55. PMID: 24821427
- 2) Kang JH, Osteoprotegerin expressed by osteoclasts: an autoregulator of osteoclastogenesis. *J Dent Res*. 2014, 93(11):1116-23. PMID: 25256714
- 3) Cheng TL, Myeloid thrombomodulin lectin-like domain inhibits osteoclastogenesis and inflammatory bone loss. *Sci Rep*. 2016, 17:6:28340. PMID: 27311356
- 4) Joung YH, Methylsulfonylmethane Inhibits RANKL-Induced Osteoclastogenesis in BMMs by Suppressing NF- κ B and STAT3 Activities. *PLoS One*. 2016, 22;11(7):e0159891. PMID: 27447722
- 5) Abdallah BM, The Coumarin Derivative 5'-Hydroxy Auraptene Suppresses Osteoclast Differentiation via Inhibiting MAPK and c-Fos/NFATc1 Pathways. *Biomed Res Int*. 2019, 9395146. PMID: 31976330
- 6) Kim HY, Auranofin Inhibits RANKL-Induced Osteoclastogenesis by Suppressing Inhibitors of κ B Kinase and Inflammasome-Mediated Interleukin-1 β Secretion. *Oxid Med Cell Longev*. 2019, 2019:3503912. PMID: 31275508
- 7) Cho E., PSTP-3,5-Me Inhibits Osteoclast Differentiation and Bone Resorption. *Molecules*, 2019, 24(18):3346. PMID: 31540026
- 8) Chen Z, Inhibitory Effects of N-[2-(4-acetyl-1-piperazinyl) phenyl]-2-(2-chlorophenoxy) acetamide on Osteoclast Differentiation In Vitro via the Downregulation of TRAF6. *Int J Mol Sci*, 2019, 20(20):5196. PMID: 31635168
- 9) Chen Z, 2-NPPA Mitigates Osteoclastogenesis via Reducing TRAF6-Mediated c-fos Expression. *Front Pharmacol*, 2021, 11:599081. PMID: 33033302
- 10) Chen Z, N-[2-(4-benzoyl-1-piperazinyl)phenyl]-2-(4-chlorophenoxy) acetamide is a novel inhibitor of resorptive bone loss in mice. *J Cell Mol Med*, 2021, 25(3):1425-1438. PMID: 33369010

- 11) Toung D, Development of a Cause-based Treatment for NBP-induced MRONJ. *J Oral Maxillofac Surg*, 2021, 79(10), e51-e52.
- 12) Alam MI, NLRP3 Inflammasome Negatively Regulates RANKL-Induced Osteoclastogenesis of Mouse Bone Marrow Macrophages but Positively Regulates It in the Presence of Lipopolysaccharides. *Int J Mol Sci*, 2022, 23(11):6096. PMID: 35682777
- 13) Li J, Sensory nerves directly promote osteoclastogenesis by secreting peptidyl-prolyl cis-trans isomerase D (Cyp40). *Bone Res*, 2023, 11(1):64. PMID: 38097598
- 14) Tokuda K., Rab32 and Rab38 maintain bone homeostasis by regulating intracellular traffic in osteoclasts. *Cell Struct Funct*, 2023, 48(2):223-239. PMID: 37793839
- 15) Whitlock JM, An inducible explant model of osteoclast-osteoprogenitor coordination in exacerbated osteoclastogenesis. *iScience*, 2023, 26(4):106470. PMID: 37091244
- 16) Nakaue E., Mechanisms of preferential bone formation in myeloma bone lesions by proteasome inhibitors. *Int J Hematol*, 2023, 118(1):88-98. PMID: 37039914
- 17) de Castro LF., RANKL inhibition reduces lesional cellularity and Gas variant expression and enables osteogenic maturation in fibrous dysplasia. *Bone Res*, 2024, 12(1):10. PMID: 38378678
- 18) Chen Z, Novel Inhibitor of Keap1-Nrf2 Protein-Protein Interaction Attenuates Osteoclastogenesis In Vitro and Prevents OVX-Induced Bone Loss In Vivo. *Antioxidants (Basel)*, 2024, 13(7):850. PMID: 39061918
- 19) Sasagawa K, Secretory leucocyte protease inhibitor regulates bone metabolism and inflammation in experimental mouse periodontitis. *Commun Biol*, 2025, 8:760. PMID: 40379839

Peripheral blood mononuclear cells、その他

- 1) Steller D, Establishment and validation of an in vitro co-culture model for oral cell lines using human PBMC-derived osteoclasts, osteoblasts, fibroblasts and keratinocytes. *Sci Rep*, 2020, 10(1):16861. PMID: 33033302
- 2) Whitlock JM, Cell surface-bound La protein regulates the cell fusion stage of osteoclastogenesis. *Nat Commun*, 2023, 14(1):616. PMID: 35955464
- 3) Leikina E., Formation of Multinucleated Osteoclasts Depends on an Oxidized Species of Cell Surface Associated La Protein. Preprint. 2024, PMID: 38903088
- 4) Blümke, A., Differentiation and Characterization of Osteoclasts from Human Induced Pluripotent Stem Cells. *J Vis Exp*. 2024, (205), e66527. PMID: 38587386