

Skeletal Development and Regeneration Research Laboratory: Jennifer J. Westendorf, P.D.

Related Research Publications

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Cartilage biology and osteoarthritis

Arnold KM, Weaver SR, Zars EL, Tschumperlin DJ, Westendorf JJ. [Inhibition of Phlpp1 preserves the mechanical integrity of articular cartilage in a murine model of post-traumatic osteoarthritis](#). Osteoarthritis Cartilage. 2024 Mar 1:S1063-4584(24)00933-6. doi: 10.1016/j.joca.2024.01.008. PMID: 38432607.

Arnold KM, Sicard D, Tschumperlin DJ, Westendorf JJ. [Atomic Force Microscopy Micro-Indentation Methods for Determining the Elastic Modulus of Murine Articular Cartilage](#). Sensors (Basel). 2023 Feb 7;23(4):1835. doi: 10.3390/s23041835. PMID: 36850434 Free PMC article.

Taylor EL, Weaver SR, Lorang IM, Arnold KM, Bradley EW, Marron Fernandez de Velasco E, Wickman K, Westendorf JJ. [GIRK3 deletion facilitates kappa opioid signaling in chondrocytes, delays vascularization and promotes bone lengthening in mice](#). Bone. 2022 Jun;159:116391. doi:10.1016/j.bone.2022.116391. Epub 2022 Mar 18. PMID: 35314385 Free PMC article.

Taylor EL, Weaver SR, Zars EL, Turner CA, Buhrow SA, Reid JM, Bradley EW, Westendorf JJ. [Chondrocytic and pharmacokinetic properties of Phlpp inhibitors](#). Osteoarthritis Cartilage Open. 2021 Jun 8;3(3):100190. doi: 10.1016/j.ocarto.2021.100190. eCollection 2021 Sep. PMID: 36474816 Free PMC article.

Weaver SR, Taylor EL, Zars EL, Arnold KM, Bradley EW, Westendorf JJ. [Pleckstrin homology \(PH\) domain and leucine rich repeat phosphatase 1 \(Phlpp1\) suppresses parathyroid hormone receptor 1 \(Pth1r\) expression and signaling during bone growth](#). J Bone Miner Res. 2021 Oct;36(10):2100-2101. doi: 10.1002/jbmr.4340. Epub 2021 Jun 4. PMID: 34086369

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Hwang SM, Feigenson M, Begun DL, Carpio Shull LR, Culley KL, Otero M, Goldring MB, Ta LE, Kakar S, Bradley EW, JJ Westendorf JJ. [Phlpp inhibitors block pain and cartilage degradation associated with osteoarthritis](#). Journal of Orthopaedic Research. 2018; doi:10.1002/jor.23781.

Bradley EW, Carpio LR, McGee-Lawrence ME, Castillejo Becerra C, Amanatullah DF, Ta LE, Otero M, Goldring MB, Kakar S, Westendorf JJ. [Phlpp1 facilitates post-traumatic osteoarthritis and is induced by inflammation and promoter demethylation in human osteoarthritis](#). Osteoarthritis and Cartilage. 2016; doi:10.1016/j.joca.2015.12.014.

Bradley EW, Carpio LR, Newton AC, Westendorf JJ. [Deletion of the PH-domain and leucine-rich repeat protein phosphatase 1 \(Phlpp1\) increases fibroblast growth factor \(Fgf\) 18 expression and promotes chondrocyte proliferation](#). Journal of Biological Chemistry. 2015; doi:10.1074/jbc.M114.612937.

Bradley EW, Carpio LR, Westendorf JJ. [Histone deacetylase 3 suppression increases PH domain and leucine-rich repeat phosphatase \(Phlpp\)1 expression in chondrocytes to suppress Akt signaling and matrix secretion](#). Journal of Biological Chemistry. 2013; doi:10.1074/jbc.M112.423723.

Bone biology and bone conditions

Torres HM, Hinojosa L, VanCleave AM, Rodezno T, Westendorf JJ, Tao J. [Hdac1 and Hdac2 positively regulate Notch1 gain-of-function pathogenic signaling in committed osteoblasts of male mice](#). Birth Defects Res. 2024 Jan;116(1):e2266. doi: 10.1002/bdr2.2266. Epub 2023 Nov 3. PMID: 37921375.

Torres HM, Yeo D, Westendorf JJ. [Pulling rank with RNA: RANKL promotes the association of PGC-1 \$\beta\$ /RNA complexes with NCoR/HDAC3 to activate gene expression in osteoclasts](#). Mol Cell. 2023 Oct 5;83(19):3397-3399. doi: 10.1016/j.molcel.2023.09.012. PMID: 37802020.

McGee-Lawrence ME, Pierce JL, Yu K, Culpepper NR, Bradley EW, Westendorf JJ. [Loss of Hdac3 in osteoprogenitors increases bone expression of osteoprotegerin, improving systemic insulin sensitivity](#). Journal of Cellular Physiology. 2018; doi:10.1002/jcp.26148.

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Carpio LR, Bradley EW, McGee-Lawrence ME, Weivoda MM, Poston DD, Dudakovic A, Xu M, Tchkonja T, Kirkland JL, van Wijnen AJ, Oursler MJ, Westendorf JJ. [Histone deacetylase 3 supports endochondral bone formation by controlling cytokine signaling and matrix remodeling](#). Science Signaling. 2016; doi:10.1126/scisignal.aaf3273.

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McGee-Lawrence ME, McCleary-Wheeler AL, Secretò FJ, Razidlo DF, Zhang M, Stensgard BA, Li X, Stein GS, Lian JB, Westendorf JJ. [Suberoylanilide hydroxamic acid \(SAHA; vorinostat\) causes bone loss by inhibiting immature osteoblasts](#). Bone. 2011; doi:10.1016/j.bone.2011.01.007.

Razidlo DF, Whitney TJ, Casper ME, McGee-Lawrence ME, Stensgard BA, Secretò FJ, Li X, Knutson SK, Hiebert SW, Westendorf JJ. [Histone deacetylase 3 depletion in osteo/chondroprogenitor cells decreases bone density and increases marrow fat](#). PLOS One. 2010; doi:10.1371/journal.pone.0011492.

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Bone cancers and cancer-associated bone conditions

Dong Z, Yeo KS, Lopez G, Zhang C, Dankert Eggum EN, Rokita JL, Ung CY, Levee TM, Her ZP, Howe CJ, Hou X, van Ree JH, Li S, He S, Tao T, Fritchie K, Torres-Mora J, Lehman JS, Meves A, Razidlo GL, Rathi KS, Weroha SJ, Look AT, van Deursen JM, Li H, Westendorf JJ, Maris JM, Zhu S. [GAS7 Deficiency Promotes Metastasis in MYCN-Driven Neuroblastoma](#). Cancer Res. 2021 Jun 1;81(11):2995-3007. doi: 10.1158/0008-5472.CAN-20-1890. Epub 2021 Feb 18. PMID: 33602789 Free PMC article.

Taylor EL, Westendorf JJ. [Histone Mutations and Bone Cancers](#). Adv Exp Med Biol. 2021;1283:53-62. doi: 10.1007/978-981-15-8104-5_4. PMID: 33155137.

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Westendorf JJ, Yamamoto CM, Lenny N, Downing JR, Selsted ME, Hiebert SW. [The t\(8; 21\) fusion product, AML-1-ETO, associates with C/EBP-alpha, inhibits C/EBP-alpha-dependent transcription, and blocks granulocytic differentiation](#). Molecular and Cellular Biology. 1998; doi:10.1128/mcb.18.1.322.