

Publications Related to IBEX Collagen Biomarker Assays

2019 Publications

- Azukizawa M, Ito H, Hamamoto Y, Fujii T, Morita Y et al. (2019). The effects of well-rounded exercise program on systemic biomarkers related to cartilage metabolism. *Cartilage*. 10: 451-8.
- Bender A, Kaessner U, Eichner G, Bachmann G, Steinmeyer J. (2019). Biomarkers of hand osteoarthritis are detectable after mechanical exercise. *J. Clin. Medicine*. 8:1545.
- Bricca A, Struglics A, Larsson S, Steultjens M, Juhl CB, Roos EM. (2019). Impact of exercise therapy on molecular biomarkers related to cartilage and inflammation in people at risk of, or with established, knee osteoarthritis: a systematic review and meta-analysis of randomized controlled trials. *Arthritis Care Res (Hoboken)*. 71: 1504-15.
- Knych HK, Mama KR, Moore CE, Hill AE, McKemie DS. (2019). Plasma and synovial fluid concentrations and cartilage toxicity of bupivacaine following intra-articular administration of a liposomal formulation to horses. *Equine Vet*. 51:408-14
- Nelson AE, Fang F, Arbeeveva L, Cleveland RJ, Schwartz TA et al. (2019). A machine learning approach to knee osteoarthritis phenotyping: data from the FNIH Biomarkers Consortium. *Osteoarthritis Cartilage*. 27: 994-1001.
- Struglics A, Saleh R, Sundberg E, Olsson M, Erlandsson Harris H, Aulin C. (2019). Juvenile idiopathic arthritis patients have a distinct cartilage and bone biomarker profile that differs from healthy and knee-injured children. *Clin. Exp. Rheumatol*. Epub, In press

2018 Publications

- Chu CR, Sheth S, Erhart-Hledik JC, Do B, Titchenal, MR, Andriacchi, TP. (2018). Mechanically stimulated biomarkers signal cartilage changes over 5 years consistent with disease progression in medial knee osteoarthritis patients. *J. Orthop. Res*. 36:891-7.
- Davis HC, Spang JT, Loesser RF, Larsson S, Ulici V et al. (2018). Time between anterior cruciate ligament injury and reconstruction and cartilage metabolism six-months following reconstruction. *Knee*. 25:296-305.
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 - Gabusi E, Manferdini C, Paoletta F, Gambari L, Kon E et al. (2018b). Clinical and Biological signature of osteochondritis dissecans in a cross-sectional study. *Biomed. Res. Int*. 2018: 5458704 39.
 - Huang X, Post JN, Zhong L, Leijten J, Larsson S et al (2018). Dickkopf-related protein 1 and gremlin 1 show different response than frizzled-related protein in human synovial fluid following knee injury and in patients with osteoarthritis. *Osteoarthritis Cartilage*. 26: 834-43.

- Ma T, Zhang Z, Song X, Bai H, Li Y et al. (2018). Combined detection of COMP and CS846 biomarkers in experimental rat osteoarthritis: a potential approach for assessment and diagnosis of osteoarthritis. *J. Orthop. Surg. Res.* 13: 230
- Titchenal MR, Williams AA, Asay JL, Migliore E, Erhart-Hledik JC et al. (2018). Mechanically stimulated CS846 correlates with ultrashort echo time enhanced T2* quantitative MRI and gait mechanics 2 years after anterior cruciate ligament reconstruction. *Osteoarthritis Cartilage.* 26:344.
- Tsuruta A, Horiike T, Yoshimura M, Nagaoka I. (2018). Evaluation of the effect of the administration of a glucosamine-containing supplement on biomarkers for cartilage metabolism in soccer players: a randomized double-blind placebo-controlled study. *Mol. Med. Rep.* 18: 3941-8.

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- Boeth H, MacMahon A, Poole AR, Buttgerit F, Onnefjord P et al. (2017). Differences in biomarkers of cartilage matrix turnover and their changes over 2 years in adolescent and adult volleyball athletes. *J Exp Orthop* 4: 1-11.
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- Coppelman E. (2017). The use of biomarkers to determine the severity of osteoarthritis in the tarsus of an older horse population. Thesis submitted to the University of Minnesota
- Hatcher CC, Collins AT, Kim SY, Michel LC, Mostertz WC 3rd et al. (2017). Relationship between T1rho magnetic resonance imaging, synovial fluid biomarkers, and the biochemical and biomechanical properties of cartilage. *J Biomech* ;55:18-26.
- Kraus VB, Collins JE, Hargrove D, Losina E, Nevitt M et al. (2017a) Predictive validity of biochemical biomarkers in knee osteoarthritis: data from the FNIH OA Biomarkers Consortium. *Ann Rheum Dis.* 76:186-95.
- Kraus V, Hargrove DE, Hunter DJ, Renner JB, Jordan JM. (2017b). Establishment of reference intervals for osteoarthritis-related soluble biomarkers: the FNIH/OARSI biomarkers consortium. *Ann. Rheum. Dis.* 76:179-85
- Kubomura D, Ueno T, Yamada M, Tomonaga M, Nagaoka I. (2017). Effect of N-acetylglucosamine administration on cartilage metabolism and safety in healthy subjects without symptoms of arthritis: A case report. *Exp. Ther. Med.* 13: 1614-21.
- Mündermann A, Klenk C, Billich C, Nüesch C, Pagenstert G et al. (2017). Changes in cartilage biomarker levels during a transcontinental multistage footrace over 4486 km. *Am J Sports Med.* 2017 Jun1:363546517712945.doi:10.1177/0363546517712945. [Epub ahead of print]
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- Wasilko SM, Tourville, TW, DeSarno MJ, Slauterbeck JR, Johnson RJ et al. (2016). Relationship between synovial fluid biomarkers of articular cartilage metabolism and the patient's perspective of outcome depends on the severity of articular cartilage damage following ACL trauma. *J Orthop Res* 34:820–7.

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- Kumahashi N, Sward P, Larsson S, Lohmander LS, Frobell R, Struglics A. (2015). Type II collagen C2C epitope in human synovial fluid and serum after knee injury-associations with molecular and structural markers of injury. *Osteoarthritis Cartilage* 23: 1506-12.
- Soto-Hermida A, Fernandez-Moreno M, Pertaga-Diaz S, Oreiro N, Fernando-Lopez C et al. (2015) Mitochondrial DNA haplogroups modulate the radiographic progression of Spanish patients with osteoarthritis. *Rheumatol. Int* 35: 337-44.
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- Huebner JL, Bay-Jensen AC, Huffman KM, He Y, Leeming DJ et al(2014). Alpha C-telopeptide of type I collagen is associated with subchondral bone turnover and predicts progression of joint space narrowing and osteophytes in osteoarthritis. *Arthritis Rheumatol.* 2014 Sep;66(9):2440-9
- Tamm AO, Kumm J, Tamm A, Lintrop M, Kukner A et al. (2014). Cartilage collagen neopeptide C2C and clinical parameters in middle-aged patients with knee problems. Correlations of urinary output of C2C with cartilage lesions, KOOS values and functional abilities of lower limb. *Osteoarthritis Cartilage* 22: S70-S71.

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- de Grauw JC, Donabedian M, van der Lest CH, Perona G, Robert C et al. (2011). Assessment of synovial fluid biomarkers in healthy foals and in foals with tarsocrural osteochondrosis. *Vet J* 190:390-5.
- Ishijima M, Watari T, Naito K, Kaneko H, Futami I et al. (2011). Relationships between biomarkers of cartilage, bone, synovial metabolism and knee pain provide insights into the origins of pain in early knee osteoarthritis. *Arthritis Res Therapy* 13: R22

- Kraus VB, Burnett B, Coindreau J, Cottrell S, Eyre D et al. (2011). Application of biomarkers in the development of drugs intended for the treatment of osteoarthritis. *Osteoarthritis Cartilage* 19: 515-42

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