CURRICULUM VITAE

Name: Eiva Bernotiene

Current position: Head of Department of Regenerative Medicine, Senior Researcher;

State Research Institute Centre for Innovative Medicine,

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EDUCATION AND QUALIFICATIONS:

1995 Faculty of Medicine, Vilnius University, Lithuania
1998 Internship, Vilnius University, Lithuania
2005 Doctoral Thesis, Geneva University, Switzerland

SCIENTIFIC INTERNATIONAL TRAININGS
2001-2002, 2004 Swiss Confederation fellowship holder; Traineeship at Department of Rheumatology Laboratory of research, Canton Hospital of Geneva University, Switzerland, under guidance of prof. C. Gabay.
2004 Heinrich Heine University Hospital, Germany. Traineeship on stem cell preparation for transplantation.
2005 Linchoping University, Sweden
2005 Institute of Biotechnology, Vilnius, Lithuania.
2006 Institute of Biochemistry, Vilnius; Institute of Immunology Vilnius, Lithuania.
2007 Stem cell research at Immuno-rheumatology Dept, INSERM U844, Montpellier, France
2010 Hydra VI Stem Cell Summer School, Greece

WORK EXPERIENCE:
1998-2003 Research assistant Laboratory of Experimental Pathology; Institute of Clinical and Experimental Medicine at Vilnius University (VU EKMI)
2003-2006 Research assistant, Department of Experimental Research; VU EKMI
2006-2009 Research fellow, Department of Experimental Research; VU EKMI
2010-2014 Principal investigator, leader of the partner IMC International FP7 Large Scale Collaborative Project ADIPOA (Adipose derived stromal cells for osteoarthritis treatment)
2010-2012 05 Department of Experimental Research; State Research Institute Centre for Innovative Medicine (former VU EKMI); Senior Researcher,
2012-present Head of Department of Regenerative Medicine; State Research Institute Centre for Innovative Medicine, Senior Researcher;

2017 09-2022 05 Associate Professor, subject: Stem Cell Investigation and Technologies. Department of Chemistry and Bioengineering, Vilnius Gediminas Technical University, VilniusTech, Lithuania

2022 05 – present Professor, , subject: Stem Cell Investigation and Technologies. Department of Chemistry and Bioengineering, Vilnius Gediminas Technical University VilniusTech, Lithuania

2022-Present Horizon Europe, International Health Initiative, IHI, States Representative

PARTICIPATION IN BIOMEDICAL STUDIES**:**

Program of Lithuanian Science Foundation „Stem Cell Integration, Survival and 2004-2006 Functional Potency in Focus of Pathology". Preclinical Studies (Cytotherapy).
Responsible Researcher

ES Strucural funds project „National Stem Cell Centre"; Leader of the project 2006-2008

Program of Lithuanian Science Foundation "Technologies of Human Adult 2007-2009 Mesenchymal Stem Cell Preparation for Clinical Applications", Cytotechnologies. Researcher

Program of Lithuanian Science Foundation, "Fundamental Studies of Mechanisms Ste2007-2009 Cell Function" (Cytotherapy II). Researcher.

LSC project „Interaction of Aggressive Inflammatory Fibroblasts with Gold Nanoparti2010-2011 in Models of Arthritis"; Researcher

2010-2011

National Science Program „Chronic non-infectious diseases" project „Stem Cells in Synovial Fluid of Children with Juvenile Idiopathic Arthritis. Responsible Researcher

International FP7 Large Scale Collaborative Project "Adipose derived stromal cells for2010-2014 osteoarthritis treatment" Acronym ADIPOA. leader and Principal investigator of the partner IMC

Global Dotation "Native matrix-based in vitro model of alveolar lung tissue: 2013-2015 implications of mesenchymal stem cells in emphysema repair" senior researcher, subst of Principal investigator of the project.

ESFA project „Development of Biological cardiac pacemaker" BIOCARDIOSTIM; le2013-2015 and Principal investigator of the partner IMC.

Effects of Cannabinoid Preparations in Inflammatory Diseases Models JSC Satimed 2016-2017 Agreement No. SM/JIMC-29/04/2016-1. Leader and Principal investigator.

Lithuanian Council, Researcher Group Project "Investigation of immunologic, genetic 2017-2019 and epigenetic factors in etiopathology of autoimmune arthritis"

High-level R&D project: "L-type calcium channels as potential therapeutic targets for osteoarthritic cartilage metabolic processes" (Project number: DOTSUT-215) 2018-2021

Lithuania–Latvia–Taiwan (Chinese Taipei) project: "Creating a new type of injectable biomimetic hydrogel for cartilage tissue engineering" (Project Contract Number: S-LLT-18-4) 2018-2020

Proteomic studies of cartilage and meniscus secreted factors; Research outsourced 2018-2019 by MERCK, Darmstadt; Co-leader

Human cartilage explant secretome research; Research outsourced by Surrey University, leader. 2018

High-level R&D SMART project: Development of a nanobiosensor: a multiplex 2019-2022 analysis of diagnostic biomarkers for personalization of arthritis therapy (Agreement N DOTSUT-1 (01.2.2-LMT-K-718-02-0022); PI of host Institution

Investigation of innovative herbal food supplements during inflammation; Research 2019 collaboration with SINTEF AS; Leader of the LT partner.

Research outsourced by Kolon Tissue Gene Chondrocyte line charakcterisation and comparison, Responsible researcher	2020
ElectroMechanoActive Polymer-based Scaffolds for Heart-on-Chip, Horizon 2020 Call H2020-NMBP-TR-IND-2018-2020 (TRANSFORMING EUROPEAN INDUSTRY) Leader of the LT partner.	2021-2025
Cost Programme CA21110 - Building an open European Network on OsteoArthritis research (NetwOArk) Management Committee member	2022-2026
Horizon Europe International Twinning programme project TWINFLAG – Twinning f Promoting Excellence, Ability and Knowledge to develop novel approaches for targetin inflammatory and degenerative age-related joint diseases; Coordinator	2022 -2025
Researcher team project "Development of a methodology for treating intervertebral disc degeneration by modulating the STAT3 signal path" Project Leader	2023-2026

Eiva Bernotiene Publication list:

1. Aleksiuk, V.; Baleisis, J.; Kirdaite, G.; Uzieliene, I.; Denkovskij, J.; Bernotas, P.; Ivaskiene, T.; Mobasheri, A.; Bernotiene, E. Evaluation of Cartilage Integrity following Administration of Oral and Intraarticular Nifedipine in a Murine Model of Osteoarthritis. Biomedicines (IF: 4.7) 2023, 11, 2443. https://doi.org/10.3390/biomedicines11092443
2. Uzieliene, I.; Bialaglovyte, P.; Miksiunas, R.; Lebedis, I.; Pachaleva, J.; Vaiciuleviciute, R.; Ramanaviciene, A.; Kvederas, G.; Bernotiene, E. Menstrual Blood-Derived Stem Cell Paracrine Factors Possess Stimulatory Effects on Chondrogenesis In Vitro and Diminish the Degradation of Articular Cartilage during Osteoarthritis. Bioengineering (IF: 5.04) 2023, 10(9), 1001; https://www.mdpi.com/2306-5354/10/9/1001
3. Kausaite-Minkstimiene, A., Popov, A., Kalvaityte, U., Bernotiene, E., Mobasheri, A., Ramanaviciene, A.; An ultra-sensitive SPR immunosensor for quantitative determination of human cartilage oligomeric matrix protein biomarker (2023) Biosensors and Bioelectronics, 234, art. no. 115370. DOI: 10.1016/j.bios.2023.115370. PUBMED ID: 37163879
4. Uzieliene, I., Popov, A., Lisyte, V., Kugaudaite, G., Bialaglovyte, P., Vaiciuleviciute, R., Kvederas, G., Bernotiene, E., Ramanaviciene, A.; Stimulation of Chondrocyte and Bone Marrow Mesenchymal Stem Cell Chondrogenic Response by Polypyrrole and Polypyrrole/Gold Nanoparticles; (2023) Polymers, 15 (11), art. no. 2571. DOI: 10.3390/polym15112571.
5. Vaiciuleviciute, R., Uzieliene, I., Bernotas, P., Novickij, V., Alaburda, A., Bernotiene, E.; Electrical Stimulation in Cartilage Tissue Engineering; (2023) Bioengineering, 10 (4), art. no. 454. DOI: 10.3390/bioengineering10040454.
6. Uzieliene, I., Bironaite, D., Miksiunas, R., Bagdonas, E., Vaiciuleviciute, R., Mobasheri, A., Bernotiene, E.; The Effect of CaV1.2 Inhibitor Nifedipine on

Chondrogenic Differentiation of Human Bone Marrow or Menstrual Blood-Derived Mesenchymal Stem Cells and Chondrocytes. (2023) International Journal of Molecular Sciences, 24 (7), art. no. 6730. DOI: 10.3390/ijms24076730. PUBMED ID: 37047701.

7. Ardatov, O., Aleksiuk, V., Maknickas, A., Stonkus, R., Uzieliene, I., Vaiciuleviciute, R., Pachaleva, J., Kvederas, G., Bernotiene, E.; Modeling the Impact of Meniscal Tears on von Mises Stress of Knee Cartilage Tissue. (2023) Bioengineering, 10 (3), art. no. 314. DOI: 10.3390/bioengineering10030314.
8. Uzieliene, I., Bironaite, D., Pachaleva, J., Bagdonas, E., Sobolev, A., Tsai, W.-B., Kvedaras, G., Bernotiene, E.; Chondroitin Sulfate-Tyramine-Based Hydrogels for Cartilage Tissue Repair. (2023) International Journal of Molecular Sciences, 24 (4), art. no. 3451. DOI: 10.3390/ijms24043451. PUBMED ID: 36834862.
9. Uzieliene, I., Bironaite, D., Bagdonas, E., Pachaleva, J., Sobolev, A., Tsai, W.-B., Kvederas, G., Bernotiene, E.; The Effects of Mechanical Load on Chondrogenic Responses of Bone Marrow Mesenchymal Stem Cells and Chondrocytes Encapsulated in Chondroitin Sulfate-Based Hydrogel. (2023) International Journal of Molecular Sciences, 24 (3), art. no. 2915. DOI: 10.3390/ijms24032915. PUBMED ID: 36769232.
8. Popov, A., Lisyte, V., Kausaite-Minkstimiene, A., Bernotiene, E., Ramanaviciene, A.; Experimental Evaluation of Quantum Dots and Antibodies Conjugation by Surface Plasmon Resonance Spectroscopy. (2022) International Journal of Molecular Sciences, 23 (20), art. no. 12626. DOI: 10.3390/ijms232012626. PUBMED ID: 36293491.
9. Strowitzki, M.J., Nelson, R., Garcia, M.P., Tuffs, C., Bleul, M.B., Fitzsimons, S., Navas, J., Uzieliene, I., Ritter, A.S., Phelan, D., Kierans, S.J., Blanco, A., Bernotiene, E., Belton, O., Schneider, M., Cummins, E.P., Taylor, C.T.; Carbon Dioxide Sensing by Immune Cells Occurs through Carbonic Anhydrase 2_Dependent Changes in Intracellular pH. (2022) Journal of Immunology, 208 (10), pp. 2363-2375. DOI: 10.4049/jimmunol.2100665. PUBMED ID: 35477686. 10.
10. Kalvaityte, U., Matta, C., Bernotiene, E., Pushparaj, P.N., Kiapour, A.M., Mobasheri, A.; Exploring the translational potential of clusterin as a biomarker of early osteoarthritis. (2022) Journal of Orthopaedic Translation, 32, pp. 77-84. DOI: 10.1016/j.jot.2021.10.001. 13.
11. Sakalyte R, Denkovskij J, Bernotiene E, Stropuviene S, Mikulenaite SO, Kvederas G, Porvaneckas N, Tutkus V, Venalis A, Butrimiene I. The Expression of Inflammasomes NLRP1 and NLRP3, Toll-Like Receptors, and Vitamin D Receptor in Synovial Fibroblasts From Patients With Different Types of Knee Arthritis. Front Immunol. 2022 Jan 19;12:767512. doi: 10.3389/fimmu.2021.767512. PMID: 35126351; PMCID: PMC8807559. IF: 7,6
12. Ramanaviciene, Almira, Anton Popov, Ema Baliunaite, Benediktas Brasiunas, Asta Kausaite-Minkstimiene, Ugur Tamer, Gailute Kirdaite, Eiva

Bernotiene, and Ali Mobasheri. 2022. "MagnetoImmunoassay for the Detection and Quantification of Human Growth Hormone" Biosensors 12, no. 2: 65. https://doi.org/10.3390/bios12020065 IF: 5,4

13. Ilona Uzieliene, Jaroslav Denkovskij, Eiva Bernotiene, Ursule Kalvaityte, Raminta Vaiciuleviciute, Yolande F. M. Ramos, Ali Mobasheri. A Protocol for the Isolation of Intact Chondrons from Healthy and Osteoarthritic Human Articular Cartilage. Book: Methods in Molecular Biology (Springer). Methods Mol Biol (IF: 10.71). 2021;2245:13-22. doi: 10.1007/978-1-0716-1119-7_2;
14. Uzieliene I, Kalvaityte U, Bernotiene E, Mobasheri A. Non-viral Gene Therapy for Osteoarthritis. Frontiers in Bioengineering and Biotechnology (IF: 3.644). 2021 Jan 13. doi.org/10.3389/fbioe.2020.618399. PMID: 33520968;
15. Ilona Uzieliene, Daiva Bironaite, Paulius Bernotas, Arkadij Sobolev, Eiva Bernotiene. Mechanotransducive Biomimetic Systems for Chondrogenic Differentiation In Vitro. Int J Mol Sci (IF: 5.923). 2021 Sep 7;22(18):9690. doi: 10.3390/ijms22189690. PMID: 34575847; 16. Raminta Vaiciuleviciute, Daiva Bironaite, Ilona Uzieliene, Ali Mobasheri, Eiva Bernotiene. Cardiovascular Drugs and Osteoarthritis: Effects of Targeting Ion Channels. Cells (IF: 6.6). 2021 Sep 28;10(10):2572. doi: 10.3390/cells10102572. PMID: 34685552;
17. Uzieliene I, Bagdonas E, Hoshi K, Sakamoto T, Hikita A, Tachtamisevaite Z, Rakauskiene G, Kvederas G, Mobasheri A, Bernotiene E. Different phenotypes and chondrogenic responses of human menstrual blood and bone marrow mesenchymal stem cells to activin A and TGF-β3. Stem Cell Res Ther. 2021, 29;12(1):251. doi: 10.1186/s13287-021-02286-w. PMID: 33926568; PMCID: PMC8082646.
18. Vaičiuleviciute R, Kalvaityte U, Bernotiene E, Mobasheri A. Ion Channel Modulators for Treatment-Resistant Rheumatoid Arthritis: Focus on Inflammation. Bioelectricity. 2021 Dec 16; 10.1089/bioe.2021.00381.
19. Bernotiene E, Bagdonas E, Kirdaite G, Bernotas P, Kalvaityte U, Uzieliene I, Thudium CS, Hannula H, Lorite GS, Dvir-Ginzberg M, Guermazi A, Mobasheri A. Emerging Technologies and Platforms for the Immunodetection of Multiple Biochemical Markers in Osteoarthritis Research and Therapy. Front Med (Lausanne). 2020 Oct 21;7:572977. doi: 10.3389/fmed.2020.572977. PMID: 33195320; PMCID: PMC7609858.
20. Mohammadinejad R, Ashrafizadeh M, Pardakhty A, Uzieliene I, Denkovskij J, Bernotiene E, Janssen L, Lorite GS, Saarakkala S, Mobasheri A. Nanotechnological Strategies for Osteoarthritis Diagnosis, Monitoring, Clinical Management, and Regenerative Medicine: Recent Advances and Future Opportunities. Curr Rheumatol Rep. 2020 Apr 4;22(4):12. doi: 10.1007/s11926-020-0884-z. PMID: 32248371; PMCID: PMC7128005;
21. Bisenieks E, Poikans J, Plotniece A, Bernotiene E, Tsai W-B, Sobolev A. Sodium N-(3,5- Bis(ethoxycarbonyl)-2,6-dimethyl-1,4-dihydropyridine-4-

carbonyl)-l-methioninate. Molbank. 2020; 2020(3):M1148. https://doi.org/10.3390/M1148

22. Rucins M, Plotniece A, Bernotiene E, Tsai W-B, Sobolev A. Recent Approaches to Chiral 1,4Dihydropyridines and their Fused Analogues. Catalysts. 2020; 10(9):1019. https://doi.org/10.3390/catal10091019
23. Satoshi Yamada, Yoshiaki Suzuki, Eiva Bernotiene, Wayne R. Giles, Yuji Imaizumi, Hisao Yamamura Swelling-activated ClC-3 activity regulates prostaglandin E2 release in human OUMS-27 chondrocytes, Biochemical and Biophysical Research Communications, Volume 537, 2021: 29-35, ttps://doi.org/10.1016/j.bbrc.2020.12.068.
24. Uzieliene, I., Kalvaityte, U., Bernotiene, E., & Mobasheri, A. Non-viral Gene Therapy for Osteoarthritis. Frontiers in Bioengineering and Biotechnology, 2020, 8: 15-9.
25. Uzieliene I, Bernotiene E, Rakauskiene G, Denkovskij, Bagdonas, Mackiewicz, Porvaneckas N, Kvederas G, Mobasheri A. The Antihypertensive Drug Nifedipine Modulates the Metabolism of Chondrocytes and Human Bone Marrow-Derived Mesenchymal Stem Cells. Front Endocrinol (Lausanne), 10, 756 2019 Nov 8 eCollection 2019
26. Uzieliene I, Bernotas P, Mobasheri A, Bernotiene E. The Role of Physical Stimuli on Calcium Channels in Chondrogenic Differentiation of Mesenchymal Stem Cells. Int J Mol Sci. 2018;19(10)
27. A.Mobasheri, W.E. van Spil, E.Budd, I. Uzieliene, E.Bernotiene, A-C Bay-Jensen, J. Larkin, M. C. Levesque, O. Gualillo, and Y. Henrotin.Molecular Taxonomy of Osteoarthritis (OA) for Patient Stratification, Disease Management and Drug Development: Biochemical Markers Associated with Emerging Clinical Phenotypes and Molecular Endotypes. Current Opinion in Rheumatology.
28. I.Uzieliene, G.Urbonaite, Z.Tachtamisevaite, A.Mobasheri, E.Bernotiene. The Potential of Menstrual Blood-Derived Mesenchymal Stem Cells for Cartilage Repair and Regeneration: Novel Aspects. Stem Cells International. IF (2018): 3.989.
29. Mobasheri A, Matta C, Uzielienè I, Budd E, Martín-Vasallo P, Bernotiene E. The Chondrocyte Channelome: A Narrative Review. Joint Bone Spine. 2018: 13.
30. Denkovskij J., Bagdonas E., Kusleviciute I., Mackiewicz Z., Unguryte A., Porvaneckas N., Fleury S., Venalis A., Jorgensen Ch., Bernotiene E. Paracrine potential of the human adipose tissue-derived stem cells to modulate balance between matrix metalloproteinases and their inhibitors in the osteoarthritic cartilage in vitro. 2017. Stem cells international. 2017:9542702. Epub 2017 Jul 27. 31. Bruzauskaite I, Raudoniute J, Denkovskij J, Bagdonas E, Meidute-Abaraviciene S, Simonyte V, Bironaite D, Siaurys A, Bernotiene E, Aldonyte R. Native matrix-based human lung alveolar tissue model in vitro: studies of the reparatory actions of mesenchymal stem cells. Cytotechnology, 2017 Feb;69(1):1-17.

32. Unguryte A, E. Bernotiene, E. Bagdonas, S. Garberyte, N. Porvaneckas, C. Jorgensen. Human articular chondrocytes with higher aldehyde dehydrogenase activity have stronger expression of COL2A1 and SOX9. Osteoarthritis and Cartilage, 2016; 24(5):873-82.
33. Bruzauskaite E, Bironaite D, Bagdonas E, Skeberdis A, Denkovskij J, Tamulevicius T, Uvarovas V, Bernotiene E. Relevance of HCN2-expressing human mesenchymal stem cells for the generation of biological pacemaker Stem Cell Res and Ther, 2016: 7(1):67.
34. Bružauskaite I, Bironaite D, Bagdonas E, Bernotiene E. Scaffolds and cells for tissue regeneration: different scaffold pore sizes-different cell effects. Cytotechnology, 2016 May;68(3):355-69.
35. Daniūnaite K, Šerėnaite I, Misgirdaite R, Gordevičius J, Unguryte A, Fleury-Cappellesso S, Bernotiene E, Jarmalaite S. Epigenetic regulation of human adipose-derived stem cells differentiation. Molecular and Cellular Biochemistry. 2015; 410: 111-20.
36. Denkovskij J, Rudys R., Bernotiene E., Minderis M., Bagdonas S., Kirdaitė G. Cell surface markers and exogenously induced PpIX in synovial mesenchymal stem cells. Cytometry Part A. 2015; 87(11): 1001-11.
37. Bernotiene E, Denkovskij J, Bagdonas E, Kusleviciute I, Porvaneckas I, Unguryte A, Mackiewicz Z. Paracrine effects of human adipose tissue derived stem cells on osteoarthritic cartilage explants in cocultures in vitro. Ann Rheum Dis. 2014;73 Suppl 1: A63-4.
38. Denkovskij J, Bernotiene E, G. Kirdaitė, Streckytė G., Rudys R., Bagdonas S. Surface markers of synovial mesenchymal stem cells: Refinement of flow cytometric analysis. Medical Physics in the Baltic States 9. 2011, 23-26.
39. Ungurytė A, Bernotiene E, Venalis A. Human mesenchymal adipose stromal cells from mature adipocyte fraction. Central European Journal of Biology. 2010, 5(1): 47-58.
40. Astrauskiene D, Bernotiene E, Bytautiene J, Sakalinskas, V, Panaviene V, Venaliene J, Lesinskas E. Recurrent tonsillitis and tonsillectomy in juvenile idiopathic arthritis Scandinavian Journal of Rheumatology, 2009, 38(5): 349-2
41. Bernotiene E, Unguryte A. Immunomodulatory properties of multipotent mesenchymal stromal cells: the impact of the inflammatory microenvironment. Laboratory medicine. 2008; 4: 25-8.
42. Bernotiene E, Noel D, Pene J, Yssel H, Jorgensen C. Effects of IL-6 Family Cytokines on Human Mesenchymal Stem Cells. Joint, bone, spine, 2008, 75 (2): 247-8.
43. Unguryte A, Bernotiene E. Multipotent mesenchymal stromal cells from adipose tissue could be an alternative source to bone marrow mesenchymal stromal cells for cell therapy. Laboratory medicine. 2008; 3: 42-8.
44. Bernotiene E, Unguryte A. Immunomodulatory properties of multipotent mesenchymal stromal cells: the impact of the inflammatory microenvironment. Laboratory medicine. 2008; 4: 25-8.

45. Bernotiene E. Possibilities of the application of stem cell therapy. Part II. Clinical pharmacotherapy, biophysics, reabilitation, surgery. Baltijos kopija, Vilnius, 2008, 159-166.
46. Astrauskiene D, Bernotiene E. New insights into bacterial persistence in reactive arthritis. Clin Exp Rheumatol. 2007; 25(3):470-9.
47. Bernotiene E, Bytautiene J, Sakalinskas V, Panaviene V, Bizaniene G, Venaliene J, Lesinskas E. | Astrauskiene, D. High frequency of Staphylococcus aureus in tonsillar core tissue of children with rheumatic arthritides and chronic tonsillitis Joint, bone, spine 74(2), 2007: 219-220.
48. Bernotiene E. Application of stem cell therapy for the suppression of autoimmune process. Seminars in Rheumatology. 2007 (14): 46-49.
49. Bernotiene E, Palmer G, Gabay C. The role of leptin in innate and adaptive immune responses. Arthritis Res Ther. 2006; 8(5):217-24.
50. Pivoriūnas A, Bernotiene E, Ungurytė A, Valiūnienė S, Drąsutienė G, Venalis A. Isolation of mesenchymal stem-like cells from human umbilical cord vein endothelium and subendothelium. Biology 2006 Nr. 2, p. 99-103.
51. Leonavičiene L, Bernotiene E, Bradūnaite R, Vaitkiene D, Redaitiene E, Astrauskas V. Antiarthritic and hepatoprotective effect of derinat on adjuvant arthritis in rats. Acta Medica Lituanica. 2006; 13 (4): 236–244.
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