CURRICULUM VITAE

Seppo Parkkila, MD, PhD, is professor of anatomy and vice-dean of education at the Faculty of Medicine and Health Technology, Tampere University, Finland. He graduated (MD) from the University of Oulu in 1991 and obtained a PhD degree in 1994 and a specialist physician degree in Clinical Chemistry in 2001. In 1996–1998, he worked as a visiting researcher at Saint Louis University. In 2002, he was invited to the post of professor of medical technology and biotechnology at the University of Tampere, and in 2008, he was appointed to the post of professor of anatomy. In 2016–2018, Dr. Parkkila served as a vice-rector at the University of Tampere. His research is focused on functional genomics of carbonic anhydrases and pH regulation. He has over 300 publications and an *h-index* of 59.

Professor Parkkila previously served or currently serves in several academic positions, including a chair of the scientific advisory board of Biomedical Research Center of the Slovak Academy of Sciences, external evaluator of the EUROXY project (FP6 European Union), coordinator of the DeZnIT project (FP6 European Union), scientific advisor of the METOXIA project (FP7 European Union), advisor of the Alliance4Life project (Horizon 2020, European Union), editorial board member of the Journal of Enzyme Inhibition and Medicinal Chemistry, chairman of the Research Council at the University of Tampere, chairman of the Preparatory Group for Tampere3 research (preparing for a university merger), board member of FinnMedi, Ltd., advisory board member of the Finnish Medical Foundation, board member of the Pirkanmaa Hospital District (Tampere University Hospital), board member of the Tampere University Foundation, board member of the UKK Institute, chairman of the FinELib strategy group that promotes open science nationally, and member of the General Synod of the Evangelical Lutheran Church of Finland.

FULL NAMES

PARKKILA Seppo Matti Olavi

DATE AND PLACE OF BIRTH

11/8/66, Vihanti, Finland

WWW-PAGES

www.seppoparkkila.fi
https://www.researchgate.net/profile/Seppo_Parkkila
https://www.linkedin.com/in/seppo-parkkila-21742533/

CURRENT POSITIONS

Professor of anatomy, Tampere University, Finland	2008-
Vice-dean of education, Tampere University, Finland	2021-

EDUCATION AND DEGREES

Specialist physician in Clinical Chemistry, University of Oulu	05/14/01
Docent, University of Oulu	11/01/99
Doctor of Medical Science (Ph.D. degree), University of Oulu	12/13/94
Licensed physician	10/14/92
Licentiate of Medicine, (M.D. degree), University of Oulu	02/19/91

MILITARY RANK

Senior Lieutenant M.C.

PREVIOUS PROFESSIONAL APPOINTMENTS

Vice-rector of research, University of Tampere, Finland	2016-2018 (36 months)
Professor of medical technology and biotechnology (Institute of Medical Technology, University of Tampere)	2002-2007 (60 months)
Senior scientist (Academy of Finland)	2006-2007 (12 months)
Chief physician (part-time) (Laboratory Centre, Tampere University Hospital)	2002-2007 (70 months)
Acting professor (Department of Anatomy and Cell Biology, University of Oulu)	1998-2001 (22 months)
Senior lecturer (Department of Anatomy and Cell Biology, University of Oulu)	1998-2001 (14 months)
Visiting scientist (Edward A. Doisy Department of biochemistry and molecular biology, Saint Louis University School of Medicine)	1996-1998 (24 months)
Acting senior lecturer (Department of Anatomy, University of Oulu)	1991-1993 (20 months)
Junior lecturer (Department of Anatomy, University of Oulu)	1991-1998 (7 months)
Resident (Oulu University Hospital)	1989-2001 (27 months)
General practitioner (in Municipal Health Services of Pudasjärvi and Raahe)	1989-1996 (9 months)
Acting junior lecturer (Department of Anatomy, University of Oulu)	1986-1990 (41 months)

CURRENT EXTERNAL RESEARCH FUNDING

Academy of Finland, Jane & Aatos Erkko Foundation, Pirkanmaa Hospital District

AWARDS

Medix-award	1992
Carl Bertil Laurell-award	1998
Dako-award	1999
University of Helsinki Bronze medal	2011
University of Tampere Silver medal	2018
Teacher of the year (C I, Univ. of Tampere School of Medicine)	2008
Teacher of the year (C II, Univ. of Tampere School of Medicine)	2009
Teacher of the year (C II, Univ. of Tampere School of Medicine)	2010
Teacher of the year (C II, Univ of Tampere School of Medicine)	2011
Teacher of the year (Univ. of Tampere School of Medicine)	2012
Teacher of the year (Univ. of Tampere School of Medicine)	2013
Teacher of the year (C II, Univ of Tampere School of Medicine)	2014
Teacher of the year (Univ. of Tampere School of Medicine)	2015

Teacher of the year (C II, Univ. of Tampere, Faculty of Medicine and Life Sci) 2018
Teacher of the year (C II, Tampere Univ, Faculty of Medicine and Health Technology) 2019
Teacher of the year (C II, Tampere Univ, Faculty of Medicine and Health Technology) 2020
Knight, First class, of the Order of the White Rose of Finland 2018

SUPERVISED MSc THESES

Milla Hänninen, MSc (Biotechnology), 2005
Mika Hilvo, MSc (Biotechnology), 2005
Piia Halmi, MSc (Biotechnology), 2006
Heini Kallio, MSc (Biotechnology), 2007
Alise Hyrskyluoto, MSc (Biotechnology), 2009
Henna Luukkonen, MSc (Biotechnol.), 2009
Sina Saari, MSc (Biotechnology), 2011
Ashok Aspatwar, MSc (Bioinformatics), 2011
Maarit Patrikainen, MSc (Bioinf.), 2012
Harlan Barker, MSc (Bioinformatics), 2013
Alma Yrjänäinen, MSc (Biotechnology), 2019

SUPERVISED PhD THESES

Jyrki Kivelä, DDS, PhD, 1999
Juha Saarnio, MD, PhD, 2000
Pepe Karhumaa, MD, PhD, 2002
Antti Kivelä, MD, PhD, 2003
Jokke Hannuksela, MD, PhD, 2004
Mari Leppilampi, PhD, 2006
Mika Hilvo, PhD, 2008
Alejandra Rodriguez Martinez, PhD, 2009
Fatemeh Bootorabi, PhD, 2011
Joonas Haapasalo, MD, PhD, 2011
Heini Kallio, PhD, 2011
Piritta Hynninen, MD, PhD, 2014
Ashok Aspatwar, PhD, 2014
Leo Syrjänen, MD, PhD, 2015
Reza Zolfaghari Emameh, PhD, 2016
Maarit Patrikainen, PhD, 2019

EXPERIENCE AS A SCIENTIFIC EVALUATOR

Referee frequently for various international journals

Referee for doctoral thesis 12 times

Opponent for doctoral thesis 4 times

Evaluator several times for adjunct professor (docent) positions in Finnish universities

Member of the committee for evaluation of adjunct professor (docent) candidates, BioMediTech, University of Tampere 2007-2016

External evaluator of EUROXY project (FP6 European Union) 2006

Chair of the scientific advisory board of Biomedical Research Center of the Slovak Academy of Sciences 2020-

Evaluator for associate research professor (molecular biology) appointment, Department of Biochemistry and Molecular Biology, Saint Louis University School of Medicine, St. Louis, MO, U.S.A. 2001

Evaluator for professor (anatomy) appointment, University of Helsinki, Faculty of Medicine 2011

Evaluator for professor (tissue and cell biology) appointment, University of Eastern Finland, Faculty of Health Sciences 2013

Evaluator for professor (anatomy) appointment, Arab Gulf University, Bahrain 2017

Evaluator for professor (Medical Biology) appointment, University of Eastern Finland, Faculty of Health Sciences	2019
Evaluator for associate professor (anatomy) appointment, Arab Gulf University, Bahrain	2020

BOARD MEMBERSHIPS

Board member of the Institute of Medical Technology, University of Tampere	2004-2007
Board member of the School of Medicine, University of Tampere	2011-2015
Board member, Faculty of Medicine and Health Technology, Tampere University	2019- 2020
Board member, The University of Tampere Foundation	2016-
Board member, Anatomici Fenniae, (Chairman 2011-2012, 2016-)	2008-
Board member, FinnMedi Ltd	2016-2019
Board member, Pirkanmaa Hospital District	2018-
Board member, UKK Institute	2019-
Advisory board member, The Finnish Medical Foundation	2018-2023
Scientific advisory board member, MABPRO (http://www.mabpro.sk/team/)	2018-
Deputy board member, Finnish Biobank Cooperative	2019-

OTHER ACTIVITIES

Director of M.D., Ph.D. program, University of Oulu	2000-2001
Director of M.D., Ph.D. program, University of Tampere	2008-2015
Chairman of steering group of Biotechnology curriculum, University of Tampere	2002-2006
Member of the postgraduate study committee, Institute of Biomedical Technology (BioMediTech), University of Tampere,	2011-2016
Vice chairman of the postgraduate study committee, School of Medicine, University of Tampere	2014-2016
Member of the Organizing Committee: the 6th International Conference on Carbonic Anhydrases, Smolenice, Slovak Republic	2003
Member of the Organizing Committee: the 8th International Conference on Carbonic Anhydrases, Florence, Italy	2009
Member of the Organizing Committee: the 9th International Conference on Carbonic Anhydrases, Antalya, Turkey	2012
Coordinator of DeZnIT project (FP6 European Union)	2009-2010
Scientific advisor of METOXIA project (FP7 European Union)	2010-2014
Advisor of Alliance4Life project (Horizon 2020)	2018-2019

Editorial board member of the Journal of Enzyme Inhibition and Medicinal Chemistry	2013-
Chairman of Research Council (University of Tampere)	2016-2018
Member of Education Council (Tampere University)	2019-
Chairman of the Preparatory Group for Tampere3 research	2017-2018
Attendee of the leadership training program, University of Tampere	2009-2010
Chairman of the FinELib strategy group	2018-
Steering group member of an EUA study “Study on Read & Publish Contracts in the Context of a Dynamic Scholarly Publishing System”	2019-2020
Steering group member of the SPARK-Finland program	2017-2020
Steering group member of the Open Science and Data project (UNIFI)	2017-2018
Parliamentary election candidate (National Coalition Party)	2015
Member of Vesilahti Evangelical-Lutheran parish council chairman 2011-2018	2007-2022
Member of the General Synod of the Evangelical Lutheran Church of Finland	2020-2023
Member of Administration Committee (the General Synod of the Evangelical Lutheran Church of Finland)	2020-2023
Participant of National Defence Course 224	2018

PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED JOURNALS
h-index 59, (Scopus)

Seppo Parkkila

1. Parkkila S, Rajaniemi H: Carbonic anhydrase activity in peripheral T-lymphocytes and appearance of the activity during their maturation in the thymus. A histochemical demonstration.
   Histochemistry 1989;91:479-482.
2. Parkkila S, Kaunisto K, Rajaniemi L, Kumpulainen T, Jokinen K, Rajaniemi H: Immunohistochemical localization of carbonic anhydrase isoenzymes VI, II and I in human parotid and submandibular glands.
   J Histochem Cytochem 1990;38:941-947.
3. Kaunisto K, Parkkila S, Tammela T, Rönnberg L, Rajaniemi H: Immunohistochemical localization of carbonic anhydrase isoenzymes in the human male reproductive tract.
   Histochemistry 1990;381-386.
4. Parkkila S, Kaunisto K, Kellokumpu S, Rajaniemi H: A high activity carbonic anhydrase isoenzyme (CA II) is present in mammalian spermatozoa.
   Histochemistry 1991;95:477-482.
5. Niemelä O, Juvonen T, Parkkila S: Immunohistochemical demonstration of acetaldehyde-modified epitopes in human liver after alcohol consumption.
   J Clin Invest 1991;87:1367-1374.
6. Parkkila A-K, Parkkila S, Juvonen T, Rajaniemi H: Carbonic anhydrase isoenzymes II and I are present in the zona glomerulosa cells of the human adrenal gland.
   Histochemistry 1993;99:37-41.
7. Parkkila S, Parkkila A-K, Kaunisto K, Waheed A, Sly WS, Rajaniemi H: Location of a membrane-bound carbonic anhydrase isoenzyme (CA IV) in the human male reproductive tract.
   J Histochem Cytochem 1993;41:751-757.
8. Halsted CH, Villanueva J, Chandler CJ, Ruebner B, Munn RJ, Parkkila S, Niemelä O: Centrilobular distribution of acetaldehyde and collagen in the ethanol-fed micropig.
   Hepatology 1993;18:954-960.
9. Parkkila S, Rajaniemi H, Kellokumpu S: Polarized expression of a band 3-related protein in mammalian sperm cells.
   Biol Reprod 1993;49:326-331.
10. Parkkila S, Parkkila A-K, Vierjoki T, Ståhlberg T, Rajaniemi H: Competitive time-resolved immunofluorometric assay for quantifying carbonic anhydrase VI in saliva.
    Clin Chem 1993;39:2154-2157.
11. Juvonen T, Räsänen O, Reinilä A, Parkkila S, Nissinen J, Kairaluoma MI, Sormunen R, Niemelä O: Segmental mediolytic arteritis - Electronmicroscopic and immunohistochemical study.
    Eur J Vasc Surg 1994;8:70-77.
12. Mühlhauser J, Crescimanno C, Rajaniemi H, Parkkila S, Milovanov AP, Castellucci M, Kaufmann P: Immunohistochemistry of carbonic anhydrase in human placenta and fetal membranes.
    Histochemistry 1994;101:91-98.
13. Parkkila S, Parkkila A-K, Juvonen T, Rajaniemi H: Distribution of carbonic anhydrase isoenzymes I, II and VI in the human alimentary tract.
    Gut 1994;35:646-650.

14. Niemelä O, Parkkila S, Ylä-Herttuala S, Halsted C, Witztum JL, Lanca A, Israel Y: Covalent protein adducts in the liver as a result of ethanol metabolism and lipid peroxidation.
Lab Invest 1994;70:537-546.
15. Sasano H, Kato K, Nagura H, Parkkila S, Parkkila A-K, Rajaniemi H, Sugai N: Carbonic anhydrases in the human adrenal gland and its disorders - Immunohistochemical and biochemical studies of the enzymes.
Endocrine Pathol 1994;5:100-106.
16. Parkkila A-K, Parkkila S, Serlo W, Reunanen M, Rajaniemi H: A competitive dual-label time-resolved immunofluorometric assay for simultaneus detection of carbonic anhydrase I and II in cerebrospinal fluid.
Clin Chim Acta 1994;230:81-89.
17. Juvonen T, Parkkila S, Parkkila A-K, Niemelä O, Lajunen LHJ, Kairaluoma MI, Perämäki P, Rajaniemi H: High-activity carbonic anhydrase isoenzyme (CA II) in human gallbladder epithelium.
J Histochem Cytochem 1994;42:1393-1397.
18. Juvonen T, Parkkila S, Lepojärvi M, Niemelä O: Demonstration of a bioactive elastin-derived peptide (Val-Gly-Val-Ala-Pro-Gly) in vascular lesions characterized by the segmental destruction of media.
Ann Chir Gynaecol 1994;83:296-302.
19. Parkkila S, Parkkila A-K, Juvonen T, Lehto V-P, Rajaniemi H: Immunohistochemical demonstration of the carbonic anhydrase isoenzymes I and II in pancreatic tumours.
Histochem J 1995;27:133-138.
20. Parkkila S, Parkkila A-K, Rajaniemi H: Circadian periodicity in salivary carbonic anhydrase VI concentration.
Acta Physiol Scand 1995;154:205-211.
21. Kaunisto K, Parkkila S, Parkkila A-K, Waheed A, Sly WS, Rajaniemi H: Expression of carbonic anhydrase isoenzymes IV and II in rat epididymal duct.
Biol Reprod 1995;52:1350-1357.
22. Tsukamoto H, Horne W, Kamimura S, Niemelä O, Parkkila S, Ylä-Herttuala S, Brittenham GM: Experimental liver cirrhosis induced by alcohol and iron.
J Clin Invest 1995;96:620-630.
23. Parkkila S, Ahonen A, Torniainen P, Heikkilä J, Salmela P: Detection of cervical metastases of thyroid medullary carcinoma by MoAb anti-CEA scintigraphy and immunohistochemistry.
Eur J Nucl Med 1995;22:1064-1068.
24. Niemelä O, Parkkila S, Ylä-Herttuala S, Villanueva J, Ruebner B, Halsted CH: Sequential acetaldehyde production, lipid peroxidation, and fibrogenesis in micropig model of alcohol-induced liver disease.
Hepatology 1995;22:1208-1214.
25. Fleming RE, Parkkila S, Parkkila A-K, Rajaniemi H, Waheed A, Sly WS: Carbonic anhydrase IV expression in rat and human gastrointestinal tract. Regional, cellular, and subcellular localization.
J Clin Invest 1995;96:2907-2913.
26. Parkkila A-K, Herva R, Parkkila S, Rajaniemi H: Immunohistochemical demonstration of human carbonic anhydrase isoenzyme II in brain tumours.
Histochem J 1995;27:974-982.

27. Parkkila S, Niemelä O, Britton RS, Brown KE, Ylä-Herttuala S, O´Neill R, Bacon B: Vitamin E decreases hepatic levels of aldehyde-derived peroxidation products in rats with iron overload.
Am J Physiol 1996;270:G376-G384.
28. Parkkila A-K, Parkkila S, Rajaniemi H: Carbonic anhydrase isoenzyme II is located in corticotrophs of the human pituitary gland.
J Histochem Cytochem 1996;44:245-250.
29. Parkkila S, Parkkila A-K, Juvonen T, Waheed A, Sly WS, Saarnio J, Kaunisto K, Kellokumpu S, Rajaniemi H: Membrane-bound carbonic anhydrase IV is expressed in the luminal plasma membrane of the human gallbladder epithelium.
Hepatology 1996;24:1104-1108.
30. Parkkila S, Parkkila A-K: Carbonic anhydrase in the alimentary tract. Roles of the different isozymes and salivary factors in the maintenance of optimal conditions in the gastrointestinal canal.
Scand J Gastroenterol 1996;31:305-317.
31. Pastoreková S, Parkkila S, Parkkila A-K, Opavský R, Zelník V, Saarnio J, Pastorek J: Carbonic anhydrase IX, MN/CA IX: Analysis of stomach complementary DNA sequence and expression in human and rat alimentary tracts.
Gastroenterology 1997;112:398-408.
32. Parkkila S, Waheed A, Britton RS, Feder JN, Tsuchihashi Z, Schatzman RC, Bacon BR, Sly WS: Immunohistochemistry of HLA-H, the protein defective in patients with hereditary hemochromatosis, reveals unique pattern of expression in gastrointestinal tract.
Proc Natl Acad Sci USA 1997;94:2534-2539.
33. Parkkila A-K, Parkkila S, Reunanen M, Niemelä O, Tuisku S, Rautakorpi I, Rajaniemi H: Carbonic anhydrase II in the cerebrospinal fluid: its value as a disease marker.
Eur J Clin Invest 1997;27:392-397.
34. Parkkila S, Parkkila A-K, Lehtola J, Reinilä A, Södervik H-J, Rannisto M, Rajaniemi H: Salivary carbonic anhydrase protects gastroesophageal mucosa from acid injury.
Digest Dis Sci 1997;42:1013-1019.
35. Feder JN, Tsuchihashi Z, Irrinki A, Lee VK, Mapa FA, Morikang E, Prass CE, Starnes SM, Wolff RK, Parkkila S, Sly WS, Schatzman RC: The hemochromatosis founder mutation in HLA-H disrupts β_2-microglobulin interaction and cell surface expression.
J Biol Chem 1997;272:14025-14028.
36. Kivelä J, Parkkila S, Metteri J, Parkkila A-K, Toivanen A, Rajaniemi H: Salivary carbonic anhydrase VI concentration and its relation to basic characteristics of saliva in young men.
Acta Physiol Scand 1997;161:221-225.
37. Waheed A, Parkkila S, Zhou XY, Tomatsu S, Tsuchihashi Z, Feder JN, Schatzman RC, Britton RS, Bacon BR, Sly WS: Hereditary hemochromatosis: Effects of C282Y and H63D mutations on association with β_2-microglobulin, intracellular processing, and cell surface expression of the HFE protein in COS-7 cells.
Proc Natl Acad Sci USA 1997;94:12384-12389.
38. Kivelä J, Parkkila S, Waheed A, Parkkila A-K, Sly WS, Rajaniemi H: Secretory carbonic anhydrase isoenzyme (CA VI) in human serum.
Clin Chem 1997;43:2318-2322.
39. Parkkila S, Waheed A, Britton RS, Bacon BR, Zhou XY, Tomatsu S, Fleming RE, Sly WS: Association of the transferrin receptor in human placenta with HFE, the protein defective in hereditary hemochromatosis.
Proc Natl Acad Sci USA 1997;94:13198-13202.

40. Saarnio J, Parkkila S, Parkkila A-K, Waheed A, Casey MC, Zhou ZY, Pastoreková S, Pastorek J, Karttunen T, Haukipuro K, Kairaluoma MI, Sly WS: Immunohistochemistry of carbonic anhydrase isozyme IX (MN/CA IX) in human gut reveals polarized expression in the epithelial cells with the highest proliferative capacity.
J Histochem Cytochem 1998;46:497-504.
41. Satta J, Laurila A, Pääkkö P, Haukipuro K, Sormunen R, Parkkila S, Juvonen T: Chronic inflammation and elastin degradation in abdominal aortic aneurysm disease: an immunohistochemical and electron microscopic study.
Eur J Vasc Surg 1998;15:313-319.
42. Zhou XY, Tomatsu S, Fleming RE, Parkkila S, Waheed A, Jiang J, Fei Y, Brunt EM, Ruddy DA, Prass CE, Schatzman RC, O'Neill R, Britton RS, Bacon BR, Sly WS: HFE gene knockout produces mouse model of hereditary hemochromatosis.
Proc Natl Acad Sci USA 1998;95:2492-2497.
43. Saarnio J, Parkkila S, Parkkila A-K, Haukipuro K, Pastoreková S, Pastorek J, Kairaluoma MI, Karttunen TJ: Immunohistochemical study of colorectal tumors for expression of a novel transmembrane carbonic anhydrase, MN/CA IX, with potential value as a marker of cell proliferation.
Am J Pathol 1998;153:279-285.
44. Parkkila A-K, Scarim AL, Parkkila S, Waheed A, Corbett JA, Sly WS: Expression of carbonic anhydrase V in pancreatic β-cells suggests role for mitochondrial carbonic anhydrase in insulin secretion.
J Biol Chem 1998;273:24620-24623.
45. Niemelä O, Parkkila S, Pasanen M, Iimuro Y, Bradford B, Thurman RG: Early alcoholic liver injury: Formation of protein adducts with acetaldehyde and lipid peroxidation products, and expression of CYP2E1 and CYP3A.
Alcohol: Clin Exp Res 1998;22:2118-2124.
46. Satta J, Ahonen A, Parkkila S, Leinonen L, Apaja-Sarkkinen M, Lepojärvi M, Juvonen T: Multiple endocrine neoplastic-associated thymic carcinoid tumour in close relatives: octreotide scan as a new diagnostic and follow-up modality. Two case reports.
Scand Cardiovasc J 1999;33:49-53.
47. Kivelä J, Parkkila S, Parkkila A-K, Rajaniemi H: A low concentration of carbonic anhydrase isoenzyme VI in whole saliva is associated with caries prevalence.
Caries Res 1999;33:178-184.
48. Leinonen J, Kivelä J, Parkkila S, Parkkila A-K, Rajaniemi H: Salivary carbonic anhydrase isoenzyme VI is located in the human enamel pellicle.
Caries Res 1999;33:185-190.
49. Saarnio J, Parkkila S, Parkkila A-K, Waheed A, Karttunen T, Sly WS: Cell-specific expression of mitochondrial carbonic anhydrase in the human and rat gastrointestinal tract.
J Histochem Cytochem 1999;47:517-524.
50. Waheed A, Parkkila S, Saarnio J, Fleming RE, Zhou XY, Tomatsu S, Britton RS, Bacon BR, Sly WS: Association of HFE protein with transferrin receptor in crypt enterocytes of human duodenum.
Proc Natl Acad Sci USA 1999;96:1579-1584.
51. Niemelä O, Parkkila S, Britton RS, Janney CG, Brunt EM, Bacon BR: Hepatic lipid peroxidation in patients with hereditary hemochromatosis and alcohol abuse.
J Lab Clin Med 1999;133:451-460.

52. Niemelä O, Parkkila S, Pasanen M, Viitala K, Villanueva JA, Halsted CH: Induction of cytochrome P450 enzymes and generation of protein-aldehyde adducts are associated with sex-dependent sensitivity to alcohol-induced liver disease in micropigs.
Hepatology 1999;30:1011-1017.
53. Parkkila S, Halsted CH, Väänänen HK, Niemelä O: Expression of testosterone-dependent enzyme, carbonic anhydrase III, and oxidative stress in experimental alcoholic liver disease.
Digest Dis Sci 1999;44:2205-2213.
54. Kivelä J, Parkkila S, Parkkila A-K, Leinonen J, Rajaniemi H: Salivary carbonic anhydrase isoenzyme VI.
J Physiol 1999;520:315-320.
55. Karhumaa P, Parkkila S, Türeci Ö, Waheed A, Grubb JH, Shah G, Parkkila A-K, Kaunisto K, Tapanainen J, Sly WS, Rajaniemi H: Identification of carbonic anhydrase XII as the membrane isozyme expressed in the normal human endometrial epithelium.
Mol Hum Reprod 2000;6:68-74.
56. Kivelä A, Parkkila S, Saarnio J, Karttunen TJ, Kivelä J, Parkkila A-K, Waheed A, Sly WS, Grubb JH, Shah G, Türeci Ö, Rajaniemi H: Expression of a Novel Transmembrane Carbonic Anhydrase Isozyme XII in Normal Human Gut and Colorectal Tumors.
Am J Pathol 2000;156:577-584.
57. Parkkila S, Rajaniemi H, Parkkila A-K, Kivelä J, Waheed A, Pastoreková S, Pastorek J, Sly WS: Carbonic anhydrase inhibitor suppresses invasion of renal cancer cells in vitro.
Proc Natl Acad Sci USA 2000;97:2220-2224.
58. Parkkila S, Parkkila A-K, Waheed A, Britton RS, Zhou XY, Fleming RE, Tomatsu S, Bacon BR, Sly WS: Cell surface expression of HFE protein in epithelial cells, macrophages, and monocytes.
Haematologica 2000;85:340-345.
59. Karhumaa P, Parkkila S, Waheed A, Parkkila A-K, Kaunisto K, Tucker PW, Huang C-J, Sly WS, Rajaniemi H: Nuclear NonO/p54^{nrb} protein is a nonclassical carbonic anhydrase.
J Biol Chem 2000;275:16044-16049.
60. Ghadour MS, Parkkila A-K, Parkkila S, Waheed A, Sly WS: Mitochondrial carbonic anhydrase (CA V) in the nervous system: expression in neuronal and glial cells.
J Neurochem 2000;75:2212-2220.
61. Rintala J, Jaatinen P, Parkkila S, Sarviharju M, Kiianmaa K, Hervonen A, Niemelä O: Evidence of acetaldehyde-protein adduct formation in rat brain after lifelong consumption of ethanol.
Alcohol Alcoholism 2000;35:458-463.
62. Jokelainen K, Parkkila S, Salaspuro M, Niemelä O: Covalent adducts of proteins with acetaldehyde in the liver as a result of acetaldehyde administration in drinking water.
J Hepatol 2000;33:926-932.
63. Niemelä O, Parkkila S, Juvonen RO, Viitala K, Gelboin HV, Pasanen M: Cytochromes P450 2A6, 2E1, and 3A and production of protein-aldehyde adducts in the liver of patients with alcoholic and non-alcoholic liver diseases.
J Hepatol 2000;33:893-901.
64. Kivelä AJ, Parkkila S, Saarnio J, Karttunen TJ, Kivelä J, Parkkila A-K, Pastoreková S, Pastorek J, Waheed A, Sly WS, Rajaniemi H: Expression of transmembrane carbonic anhydrase isoenzymes IX and XII in normal human pancreas and pancreatic tumours.
Histochem Cell Biol 2000;114:197-204.

65. Parkkila S, Parkkila A-K, Saarnio J, Kivelä J, Karttunen TJ, Kaunisto K, Waheed A, Sly WS, Türeci Ö, Virtanen I, Rajaniemi H: Expression of the membrane-associated carbonic anhydrase isozyme XII in the human kidney and renal tumors.
J Histochem Cytochem 2000;48:1601-1608.
66. Parkkila S, Parkkila A-K, Rajaniemi H, Shah GN, Grubb JH, Waheed A, Sly WS: Expression of membrane-associated carbonic anhydrase XIV on neurons and axons in mouse and human brain.
Proc Natl Acad Sci USA 2001;98:1918-1923.
67. Makkonen K, Viitala K, Parkkila S, Niemelä O: Serum IgG and IgE antibodies against mold-derived antigens in patients with symptoms of hypersensitivity.
Clin Chim Acta 2001;305:89-98.
68. Leinonen J, Parkkila S, Kaunisto K, Koivunen P, Rajaniemi H: Secretion of carbonic anhydrase isoenzyme VI (CA VI) from human and rat lingual serous von Ebner's glands.
J Histochem Cytochem 2001;49:657-662.
69. Worrall S, Niemelä O, Parkkila S, Peters TJ, Preedy VR: Protein adducts in type I and type II fibre predominant muscles of the ethanol-fed rat: preferential localisation in the sarcolemmal and sub-sarcolemmal region.
Eur J Clin Invest 2001;31:723-730.
70. Latvala J, Parkkila S, Melkko J, Niemelä O: Acetaldehyde adducts in blood and bone marrow of patients with ethanol-induced erythrocyte abnormalities.
Mol Med 2001;7:401-405.
71. Parkkila S, Niemelä O, Savolainen E-R, Koistinen P: HFE mutations do not account for transfusional iron overload in patients with acute myeloid leukemia.
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