

Aurel Popa Wagner

Professor

Aging and Neural Repair Laboratory

Medical University Greifswald

Germany

E-mail: aurel.popa-wagner@geriatrics-healthyageing.com

Biography

Prof. Aurel Popa-Wagner has received his PhD in Biochemistry at Institute of Biochemistry, University of Karlsruhe, Germany during the period of: 1988-1990. Currently, he is working as Professor of Experimental Neurology at the Department of Neurology and Head of the Research Department of the Ernst-Moritz-Arndt University, Greifswald, Germany; Professor of Pathobiochemistry and Director of the Department of Molecular Medicine, University of Medicine and Pharmacy, Craiova, Romania. He has successfully completed his Administrative responsibilities as Coordinator of (i) Neuroscience Research Programme at the Medical Faculty, Ernst-Moritz-Arndt University, Greifswald, Germany; (ii) of the programme “Molecular imaging in aging and neural repair” at the Medical Faculty, Ernst-Moritz-Arndt University, Greifswald, Germany. He is serving as an editorial member of several reputed journals like: Oxidative Medicine and Cellular Longevity and BMC Geriatrics. He has authored 70 research articles/books. He is a member of: German Society for Aging Research; The Society for the Study of Neuroprotection and Neuroplasticity-International Board. He has honored as: Rene Schubert Prize for Research on Ageing.

Education

2004: Habilitation in Internal Medicine and Experimental Neurology, Medical Faculties of Erlangen-Nuremberg and Greifswald, Germany

1990-1991: Postdoc, Ethel Percy Andrus Gerontology Center, University of Southern California, Los Angeles, USA

1988–1990 PhD in Biochemistry Institute of Biochemistry, University of Karlsruhe, Germany

1976-1981 Diploma in Biochemistry, University of Bucharest, Romania

Research Interest

The aim of Aurel Popa Wagner group is to unravel cellular and molecular mechanisms underlying aging progression and its significance for brain diseases. The group has a long-standing interest in molecular mechanisms of brain remodelling in the aged rat brain. His group has studied the plasticity of the aging brain in response to stimuli for more than 15 years and to stroke injury in aged animals for the last 10 years. Overall our results suggest that: (1) although older animals retain the potential for brain plasticity-related cyto-genetic events after injury, the expression of key brain plasticity-associated genes and proteins is often attenuated and temporally altered; (2) an important cellular event associated with restricted axonal growth after stroke in aged animals is the early formation of a scar in the infarcted region; (3) Granulocyte-Colony Stimulating Factor lowers mortality and enhances neurogenesis in the brains of post-stroke aged animals; (4) vascular wall reactivity is exacerbated in the post-stroke aged animals. Expertise: aged animals models of cerebral ischemia; behavioral analysis; recording of EEG and various physiological parameters by

telemetric measurements; MRI for small animals; immunohistochemical procedures, proteomics, genomics.

Published Articles:

1. Raluca Elena Sandu², Ana-Maria Buga¹, Adrian Tudor Balseanu², Mihai Moldovan^{3,4} and Aurel Popa-Wagner. (2015) Twenty four hours hypothermia has temporary efficacy in reducing brain infarction and inflammation in aged rats. *Neurobiology of Aging*, in press.
2. Raluca Elena Sandu, Ana Maria Buga, Adriana Uzoni, Eugen Bogdan Petcu, Aurel Popa-Wagner (2015) Neuroinflammation and comorbidities are frequently ignored factors in CNS pathology. *Neural Regeneration Research*, 10: 1349-1382
3. A M Gaman, A Uzoni, A Popa-Wagner*, A Anghel, EB Petcu (2015) The role of oxidative stress in etiopathogenesis of chemotherapy induced cognitive impairment (CICI)-“chemobrain”. *Aging & Disease*, 2015, in press. * Corresponding author
4. Sandu RE, Uzoni, A, Coman C, Popa-Wagner A (2015) Cerebral ischemia in the aged. Limited anti-inflammatory efficacy of the indomethacin treatment. *Rom J Morphol Embryol*. 2015, in press (IF = 0,80)
5. Emilia Manole, Laura Cristina Ceafalan, Ana-Maria Oproiu, Aurel Popa-Wagner, Bogdan Ovidiu Popescu. Claudin-1 and occludin expression in demyelinating peripheral neuropathies. *Rom J Morphol Embryol*. 2015, in press (IF = 0,80)
6. Popa-Wagner A, Filfan M, Uzoni A, Pourgolafshan P, Buga AM. (2015). Poststroke Cell Therapy of the Aged Brain. *Neural Plast*. 2015:839638. doi: 10.1155/2015/839638. Epub 2015 Aug 11
7. Slevin M, Matou S, Zeinolabediny Y, Corpas R, Weston R, Liu D, Boras E, Di Napoli M, Petcu E, Sarroca S, Popa-Wagner A, Love S, Font MA, Potempa LA, Al-Baradie R, Sanfeliu C, Revilla S, Badimon L, Krupinski J. (2015) Monomeric C-reactive protein-a key molecule driving development of Alzheimer’s disease associated with brain ischaemia? *Sci Rep*. 3;5:13281. doi: 10.1038/srep13281.
8. Popa-Wagner A(1), Buga AM, Dumitrascu DI, Uzoni A, Thome J, Coogan AN. *J Neural Transm*. 2015 Jul 15. [Epub ahead of print] How does healthy aging impact on the circadian clock?
9. Buga AM, Scheibe J, Möller K, Ciobanu O, Pösel C, Boltze J, Popa-Wagner A. (2015) Granulocyte Colony-Stimulating Factor And Bone Marrow Mononuclear Cells For Stroke Treatment In The Aged Brain. *Curr Neurovasc Res*. 12: 155-162 (IF = 2,4)
10. Popa-Wagner A, Buga AM, Doeppner TR, Hermann DM. (2014) Stem cell therapies in preclinical models of stroke associated with aging. *Front Cell Neurosci*. 2014 Nov 3;8:347. doi: 10.3389/fncel.2014.00347. eCollection 2014. (IF = 4,3)
11. A Popa-Wagner, AM, Buga, TR, Doeppner, D, Hermann (2014) Stem cell therapies in preclinical models of stroke associated with aging. *Front Cell Neurosci*, in press.
12. Popa-Wagner A, Buga AM, Tica AA, Albu CV (2014) Perfusion deficits, inflammation and aging precipitate depressive behaviour. *Biogerontology* Jul 18. [Epub ahead of print] (IF = 3,4)
13. Balseanu, A, A-Ma Buga, D-C Wagner, J Boltze, K Reymann, W Schaebitz and A Popa-Wagner (2014). Multimodal approaches for regenerative stroke therapies: Combination of G-CSF with BM MSC is not superior to G-CSF alone. *Frontiers Aging Neurosci*. *Front Aging Neurosci*. Jun 23;6:130. doi: 10.3389/fnagi.2014.00130. eCollection 2014 (IF = 5,4)
14. Tatarishvili, Oki K, Buga AM, Popa-Wagner A, Brüstle O, Lindvall O, Kokaia Z. (2014) Human induced pluripotent stem cells improve recovery in stroke-injured aged rats. *Restor Neurol Neurosci*. 2014 Jun 10. [Epub ahead of print] (IF = 2,9)
15. Muresanu DF, Popa-Wagner A, Stan A, Buga AM, Popescu BO (2014). The vascular component of Alzheimer’s disease. *Curr Neurovasc Res*. 11:168-76. (IF = 2,9)

16. Buga AM, Margaritescu C, Scholz CJ, Radu E, Zelenak C, Popa-Wagner A. (2014) Transcriptomics of post-stroke angiogenesis in the aged brain. *Front Aging Neurosci.* Mar 18;6:44. doi:0.3389/fnagi.2014.00044. (IF = 5,4)
17. Freret T, Gaudreau P, Schumann-Bard P, Billard JM, Popa-Wagner A. (2014) Mechanisms underlying the neuroprotective effect of brain reserve against late life depression. *J Neural Transm.* Jan 5. [Epub ahead of print] (IF = 3,0)
18. Di Napoli M, Parry-Jones AR, Smith CJ, Hopkins SJ, Slevin M, Masotti L, Campi V, Singh P, Papa F, Popa-Wagner A, Tudorica V, Godoy DA. (2014) C-reactive protein predicts hematoma growth in intracerebral hemorrhage. *Stroke.* 45(1):59-65. doi: 10.1161/STROKEAHA.113.001721. Epub 2013 Nov 21. (IF = 6,2)
19. Popa-Wagner A, Mitran S, Sivanesan S, Chang E, Buga AM. ROS and brain diseases: the good, the bad, and the ugly. *Oxid Med Cell Longev.* 2013;2013:963520. doi: 10.1155/2013/963520. Epub 2013 Dec 5. (IF = 3,4)
20. Hermann DM, Buga AM, Popa-Wagner A. Neurovascular remodeling in the aged ischemic brain. *J Neural Transm.* 2013 Dec 31. [Epub ahead of print] (IF = 3,0)
21. Hermann DM, Buga AM, Popa-Wagner A. (2013) Enabling brain plasticity and neurological recovery in the ischemic brain: effect of age and vascular risk factors as confounders. *Rom J Morphol Embryol.* 2013;54(3 Suppl):687-93. (IF = 1,0)
22. Popa-Wagner A, Buga AM, Popescu B, Muresanu D. (2013) Vascular cognitive impairment, dementia, aging and energy demand. A vicious cycle. *J Neural Transm.* Dec 14. [Epub ahead of print] (IF = 3,0)
23. Popa-Wagner A, Catalin B, Buga AM. (2013) Novel putative mechanisms to link circadian clocks to healthy aging. *J Neural Transm.* Dec 3. [Epub ahead of print] (IF = 3,0)
24. Buga AM, Di Napoli M, Popa-Wagner A. (2013) Preclinical models of stroke in aged animals with or without comorbidities: role of neuroinflammation. *Biogerontology.* 14:651-62. doi: 10.1007/s10522-013-9465-0 (IF = 3,4)
25. Raza SS, Khan MM, Ahmad A, Ashafaq M, Islam F, Wagner AP, Safhi MM, Islam F. Neuroprotective effect of naringenin is mediated through suppression of NF- κ B signaling pathway in experimental stroke. *Neuroscience.* 2013 Jan 29;230:157-71. Epub 2012 Oct 26. (IF = 3.4).
26. Kirchhoff F, Debarbieux F, Kronland-Martinet C, Cojocaru GR, Popa-Wagner A. Combined two-photon laser-scanning microscopy and spectral microCT X-ray imaging to characterize the cellular signature and evolution of microstroke foci. *Rom J Morphol Embryol.* 53(3 Suppl): 671-5, 2012. (IF 1.0)
27. Ana Maria Buga, C Scholz, S Kumar, J G Herndon, D Alexandru, G R Cojocaru, T Dandekar, A Popa-Wagner. Identification of new therapeutic targets by genome-wide analysis of gene expression in the ipsilateral cortex of aged rats after stroke. *PLoS ONE*, 7: e50985, 2012. (IF 4.54)
28. M Di Napoli, D A Godoy, V Campi, L Masotti, C J Smith, A P-Jones, S J Hopkins, M Slevin, F Papa, L Mogoanta, D Pirici, and A Popa-Wagner. C-Reactive Protein After Intracerebral Hemorrhage. Time-course, Tissue Localization and Prognosis. *Neurology*, 79:660-699, 2012. (IF 8.3)
29. A-M Buga, R Vintilescu, A T Balseanu, O T Pop, C Streba, E Toescu, A Popa-Wagner Repeated PTZ treatment at 25-day intervals leads to a highly efficient accumulation of doublecortin in the dorsal hippocampus of rats. *PLoS ONE*, 7:e39302, 2012. IF 4.54
30. Joseph C, Buga AM, Vintilescu R, Balseanu AT, Moldovan M, Junker H, Walker L, Lotze M, Popa-Wagner A. Prolonged gaseous hypothermia prevents the upregulation of phagocytosis-specific protein Annexin 1 and causes low-amplitude EEG activity in the aged rat brain after cerebral ischemia. *J Cereb Blood Flow Metab.* 32:1632-42, 2012. IF 5.4
31. Loubinoux I, Kronenberg G, Endres M, Schumann-Bard P, Freret T, Filipkowski RK, Kaczmarek L, Popa-Wagner A. Poststroke depression: mechanisms, translation and therapy. *J Cell Mol Med.* 16:1961-9, 2012. IF 4.25

32. Popa-Wagner A, Buga AM, Turner RC, Rosen CL, Toescu E. Cerebrovascular disorders: role of aging. *J Aging Res.* 2012; 2012:128146.
33. Di Napoli M, Elkind MS, Godoy DA, Singh P, Papa F, Popa-Wagner A. Role of C-reactive protein in cerebrovascular disease: a critical review. *Expert Rev Cardiovasc Ther.* 2011 9:1565-84.
34. Pluta R, Jolkkonen J, Cuzzocrea S, Pedata F, Cechetto D, Popa-Wagner A. Cognitive Impairment with Vascular Impairment and Degeneration. *Curr Neurovasc Res.* 8:342-50, 2011; IF 3.25
35. Anghel A, Taranu G, Seclaman E, Rata A, Tamas L, Moldovan H, Ursoniu S, Samoila C, Ionac M, and Popa-Wagner A (2011). Efficiency and safety of vascular endothelial and hepatocyte growth factors gene therapy in patients with critical limb ischemia. *Curr. Neurovasc. Res.* 8:183-9. IF 3.25
36. Di Napoli M, Godoy DA, Campi V, Del Valle M, Piñero G, Mirofsky M, Popa-Wagner A, Masotti L, Papa F, Rabinstein AA (2011). C-reactive protein level measurement improves mortality prediction when added to the spontaneous intracerebral hemorrhage score. *Stroke* 42:1230-1236. (IF 6.2)
37. A-M Buga, R Vintilescu, O T Pop and A Popa-Wagner (2011) Brain Aging and Regeneration after Injuries: an Organismal approach. *Aging and Disease*, 2: 64-79.
 A. Popa-Wagner, A-M. Buga and Z. Kokaia (2011) Perturbed Cellular Response to Brain Injury During Aging. *Aging Research Reviews*, 10:71-9. IF = 6.5
38. Popa-Wagner A, Pirici D, Petcu EP, Mogoanta A, Ana-Maria Buga, Rosen, CL, Leon R and Jason D. Huber. Pathophysiology of the Vascular Wall and its Relevance for Cerebrovascular Disorders in Aged Rodents. *Curr. Neurovasc. Res.* 7: 251-267, 2010. IF 3.25
39. M Moldovan, AO Constantinescu, A Balseanu, L Zagrean, A Popa-Wagner (2010) Sleep deprivation attenuates experimental stroke severity in rats. *Exp. Neurology*, 222:135-143. IF 4.28
40. Popa-Wagner, K. Stocker, A. Balseanu, A. Rogalewski, K. Diederich, J. Minnerup, C. Margaritescu, W.-R. Schabitz (2010) Effects of Granulocyte-Colony Stimulating Factor after stroke in aged rats. *Stroke*, 41:1027-1031. IF 6.49
41. 51. Carapancea M, Alexandru O, Fetea AS, Dragutescu L, Castro J, Georgescu A, Popa-Wagner A, Bäcklund ML, Lewensohn R, Dricu A. (2009) Growth factor receptors signaling in glioblastoma cells: therapeutic implications. *J Neurooncol.* 92:137-47. IF 2.82
42. Eugen Bogdan Petcu, Thomas Kocher, Alexander Kuhr, Ana-Maria Buga, James G. Herndon, Christof Kessler and Aurel Popa-Wagner (2008). Mild systemic inflammation has a neuroprotective effect after stroke in rats. *Current Neurovascular Research*, 5: 214-222. IF 3.25
43. Baltromejusz F, Vintilescu R, Balseanu AT, Buga AM, Grisk O, Walker LC, Kessler C, and Popa-Wagner A (2008). Long-term hypothermia reduces infarct volume in aged rats after focal ischemia. *Neurosci. Letters* 438:180–185. IF 2.5
44. Buga AM, Sascau M, Herndon JG, Kessler K and Popa-Wagner A (2008) The genomic response of the contralateral cortex to stroke is diminished in the aged rats. *J. Cell. Mol. Med.* 12: 2731-2753 IF 6.807
45. Petcu EB, Sfredel V, Platt D, Herndon JG, Kessler C, Popa-Wagner A (2008) Cellular and molecular events underlying the dysregulated response of the aged brain to stroke: a mini-review. *Gerontology* 54:6-17. IF 1.70
46. Junker H, Suofu Y, Venz S, Sascau S, Herndon JG, Kessler C, Walther R, and Popa-Wagner A (2007). Proteomic identification of an upregulated isoform of Annexin A3 in the rat brain following reversible cerebral ischemia. *Glia*, 55: 1630-1637. IF 5.4
47. Buchhold, B, Mogoanta L, Suofu Y, Hamm A, Walker L, Kessler C, Popa-Wagner, A (2007) Environmental enrichment improves functional and neuropathological indices following stroke in young and aged rats. *Restorative Neurol. Neurosci.* 25: 1–18. IF 2.415
48. Popa-Wagner, Carmichael, ST, Kokaia, Z, and Walker, LC (2007) The response of the aged brain to stroke: Too much, too soon? *Current Neurovascular Research* 4:216-277. IF 3.5
49. Popa-Wagner A, Badan I, Walker L, Groppa S, Patrana N, Kessler, Ch (2007). Accelerated infarct development, cytogenesis and apoptosis following transient cerebral ischemia in aged rats. *Acta Neuropathol. (Berlin)*, 113:277-293. IF 5.31

50. P. Dazert, Y. Suofu, M. Grube, A. Popa-Wagner, H.K. Kroemer, G. Jedlitschky and C. Kessler (2006). Differential Regulation of Transport Proteins in the Periinfarct Region Following Reversible Middle Cerebral Artery Occlusion in Rats. *Neuroscience* 142: 1071-1079. IF 3.352
51. Popa-Wagner, I. Dinca, S. Yalikus, L. Walker, H. Kroemer and Ch. Kessler. (2006) Accelerated delimitation of the infarct zone by capillary-derived nestin-positive cells in aged rats. *Current Neurovascular Research* 3, 3-13. IF 3.5
52. Junkers, H., Späthe, K., Walther, R., Walker, L., Schwarz, G., Kramer, W., Nordheim, A. Kessler, Ch. and Popa-Wagner, A. (2005). Proteomic identification of a modified form of the Rieske iron-sulfur protein following seizure. *Epilepsia*, 46:339-343. IF 3.73
53. Schmoll, H., S. Ramboiu, I. Badan, D. Platt, JG Herndon, Ch. Kessler and A. Popa-Wagner (2005) Age influences on the expression of GAP-43 in the rat hippocampus following seizure. *Gerontology*, 51: 215-224. IF 1.70
54. Kuhr A, Popa-Wagner A, Schmoll H F, Schwahn C, Kocher T. (2004) Observations on experimental marginal periodontitis in rats. *J Periodontal Res.* 39:101-106. IF 2.146
55. Badan, I. Dinca, I, Buchhold, B, Suofu, Y, Walker, L, Kessler, Ch, Popa-Wagner, A (2004). Accelerated accumulation of N- and C-terminal β APP fragments and delayed recovery of MAP1B expression following stroke in aged rats. *Eur. J. Neurosci.*, 19: 2270-2280. IF 4.68
56. Schmoll, H., Badan, I., Walker, L., Kessler, Ch., and Popa-Wagner, A. (2003) Kindling status in Sprague-Dawley rats induced by pentylenetetrazole: involvement of a critical development period. *Am. J. Pathol.*, 162: 1027-1034. IF 5.487
57. Schroeder, E., S. Vogelgesang, A. Popa-Wagner, Ch. Kessler (2003). Neurofilament expression in the rat brain after cerebral infarction: effect of age. *Neurobiol. Aging* 24: 135-145. IF 5.607
58. Badan I, Buchhold B, Walker L, Graz L, Kessler Ch, A. Popa-Wagner (2003). Accelerated glial reactivity to stroke in aged rats correlates with reduced functional activity. *J. Cereb. Blood Flow Metab.* 23: 845-854. IF 5.147
59. Badan, I, D. Platt, Ch. Kessler, A. Popa-Wagner (2003). Temporal Dynamics of Degenerative and Regenerative Events Associated with Cerebral Ischemia in Aged Rats. *Gerontology*, 49: 356-365. IF 1.358
60. Schmoll H, Badan I, Fischer B, and A. Popa Wagner (2001) Dynamics of gene expression for immediate early- and late genes after seizure activity in aged rats. *Arch. Gerontol. Geriatrics* 32: 199-218. IF 1.289
61. Popa-Wagner, A., H. Schmoll, D. Platt, and C. Kessler (2000). Brain plasticity: to what extent do aged animals retain the capacity to coordinate gene activity in response to acute challenges. *Exp. Gerontol.* 35: 1211-1227. IF 2.879
62. Popa Wagner, A., B. Fischer, D. Platt, H. Schmoll, and C. Kessler (2000) Delayed and blunted induction of the mRNA for tissue plasminogen activator in the brain of old rats following pentylenetetrazole-induced seizure activity. *J. Gerontology*, 55: B242-B248. IF 2.932
63. Popa-Wagner, A., Fischer B, Schmoll H, Platt D, and Kessler, C. (1999) Anomalous Expression of Microtubule-Associated Protein 1B in the Hippocampus and Cortex of Aged Rats Treated with Pentylenetetrazole. *Neuroscience*, 94: 395-403. IF 7.5
64. Popa-Wagner, A., E. Schröder, H. Schmoll, L.C. Walker, and Ch. Kessler (1999) Upregulation of MAP1B and MAP2 in the Rat Brain Following Middle Cerebral Artery Occlusion: Effect of Age. *J. Cereb. Blood Flow Met.*, 19: 425-434. IF 5.147
65. A. Popa-Wagner, E. Schröder, L.C. Walker, Ch. Kessler (1998). β -Amyloid Precursor Protein and A β Peptide Immunoreactivity in the Rat Brain Following Middle Cerebral Artery Occlusion: Effect of Age. *Stroke*, 29: 2196-2202. IF 6.296
66. Popa Wagner, B. Fischer, H. Schmoll, D. Platt and C. Kessler (1998) Altered Expression of Microtubule-Associated Protein 1B in Cerebral Cortical Structures of Pentylenetetrazole-Treated Rats. *J. Neurosci. Res.*, 51: 646-657. IF 3.268

67. Popa-Wagner A, Fischer B, Schmoll H, Platt D, Kessler C (1997) Increased Expression of Microtubule-Associated Protein 1B in the Hippocampus, Subiculum, and Perforant Path of Rats Treated with a High Dose of Pentylentetrazole. *Exp. Neurol.* 148: 73-82, 1997. IF 3.982
68. Fischer, B. and A. Popa-Wagner (1997) Synaptic plasticity is preserved in the temporal cortex of 20-mo-old rats. *Arch. Gerontol. Geriatrics* 25: 27-39. IF 1.289
69. Dorner, H., Fischer, B., Kessler, C., Platt, D., and Popa-Wagner, A. (1996) V+ Fibronectin mRNA is increased in the brain of aged rats: Effect of food restriction. *Brain Res.* 726:198-206 IF 2.218
70. Retchkiman, I., Fischer, B., Platt, D., and Popa-Wagner, A. (1996) Seizure induced c-fos mRNA in the rat brain: comparison between young and aging animals. *Neurobiol. Aging* 17: 41-44. IF 5.607
71. Fischer, B., Retchkiman, I., Bauer, J., Platt, D., and Popa-Wagner, A. (1995) Pentylentetrazole-Induced Seizure Upregulates Levels of Microtubule-Associated Protein 1B mRNA and Protein in the Hippocampus of Rat. *J. Neurochem.* 65, 467-471. IF 4.451
72. Fischer, B. Schmoll, H., Riederer, P., Bauer, J., Platt, D. and Popa-Wagner, A. (1995)
73. Complement C1q and C3 mRNA Expression in the Frontal Cortex of Alzheimer's Patients. *Molec. Med.* 73: 465-471. IF 4.8
74. Dorner, H., Fischer, B., Platt, D., and Popa-Wagner, A. (1995) Evidence that fibronectin mRNA (FN-V+) is increased in the liver of old Sprague-Dawley rats. Opposing effect of food restriction. *J. Gerontol.*, 150, B128-132. IF 2.932
75. Popa-Wagner, A., G. Reck and D. Platt (1993) Evidence that V+ Fibronectin, GFAP and S100 β mRNAs are Increased in the Hippocampus of Aged Rats. *Exp. Gerontol.* 28, 135-143. IF 2.879
76. Popa-Wagner, A., G. Reck and D. Platt (1992) Dynamics of Gene Expression for Microtubule-Associated Protein MAP1B, Embryonic α -Tubulin and Late Neural β -Tubulin in the Hippocampus of Aged Rats. *Biochem. Biophys. Res. Commun.* 184, 292-299. IF 2.749
77. Popa-Wagner, A., K.D. Beck, and G.Reck (1992) N-CAM and N-Cadherin in Development and Aging: Selective Reduction in the 7.4-kb and 6.7-kb NCAM Messages in the Hippocampus of Adult and Old Rats. *Mech. Ageing Dev.* 62, 201-208. IF 4.308
78. Popa-Wagner, A., Day, R.D., Platt, D. and Pasinetti, G.M. (1992) Dopaminergic and astrocytic responses in striatum to cortical deafferentation (II). Decortication and striatal mRNA: Increases of mRNA for fibronectin, but not of NCAM or alpha-tubulin mRNA. *NeuroReport* 3, 853-856. IF 2.163
79. Popa-Wagner, A., G.Reck, and K.D.Beck (1991) Evidence that the V Sequence-Containing Form of Fibronectin mRNA is Increased in the Hippocampus of Aged Rats. *NeuroReport* 2, 691-694. IF 2.163
80. Popa-Wagner, A. and Retey, J.(1990). Synthesis of Myristoyl-carba(dethia)-CoA and S-[3-oxohexadecyl]- CoA, two potent inhibitors of N-Myristoyl Transferase. *Eur.J.Biochem.* 195, 699-705.
81. Popa-Wagner, A. and Retey, J.(1990). Assay of N-myristoyl transferase by selective adsorption of myristoyl-CoA on acidic alumina. *Analyt. Biochem.* 188, 356-358. IF 3.002
82. Popa-Wagner, A. (1990). On the strategy of directed assembly and its relevance to ageing. *Gerontology* 36, 132-139. IF 1.358
83. Popa-Wagner, A. (1989). On the relationships between the rate of cytoskeletal stable assemblies turnover, stability of the differentiated state, development and aging. *J.theor.Biol.* 138, 175-184. IF 2.323
84. Popa-Wagner, A., E. Psarrou and L.P. Wagner (1984). Electrophoretic concentration of proteins in a nonlinear pH gradient. *Anal.Biochem.* 129, 326-328. IF 3.002
85. Popa-Wagner, A., E.Psarrou and L.P. Wagner (1983).Single step,rapid separation of acidic and basic isoenzymes from commercial horseradish peroxidase. *Anal.Biochem.* 129, 326-328. IF 3.002
86. Popa-Wagner, A., M.C. Iordachel and L.P. Wagner (1983). Age changes in the H1 group of histones from rat liver. *Exp.Gerontol.* 17, 173-178. IF 2.879

87. Popa-Wagner, A. and L.P. Wagner (1983). Concentration and analysis of proteins by a discontinuous pH gradient formed by isoelectric focusing in polyacrylamide gel. *Int. J. Biochem. Cell Biology* 15, 1463-1468. IF 4.0
88. Popa-Wagner, A., E. Psarrou and L.P. Wagner (1983). Age changes of isoelectric points of the molecular forms of tyrosine aminotransferase from rat liver. *Gerontology* 29, 299-304. IF 1.658
89. Popa-Wagner, A., E.Psarrou and L.P. Wagner (1982). Age changes of the isoelectric points of nonhistone chromosomal proteins from rat liver in the pH range 5-8. *Exp.Gerontol.* 17, 359-364. IF 2.879
90. Popa-Wagner, A., L.P. Wagner and E. Psarrou (1982). Age-related changes in 28S RNA and 18S RNA in antigen stimulated and nonstimulated rat spleens. *AGE* 5, 113-118. IF 2.925
91. Popa-Wagner, A., M.C. Iordachel and L.P. Wagner (1982). A simple spectrophotometric method for the measurement of the RNase activity in biological fluids. *J.Biochem.Biophys.Methods* 8, 291-298. IF 1.338
92. Popa-Wagner, A., L.P. Wagner, and M.C. Iordachel (1981). The purification and properties of a RNase of the roe of the fish *Cyprinus carpio*. *Comp. Biochem. Physiol.B* 70, 147-152. IF 1.65

Book chapters

1. Mario Di Napoli, Craig J. Smith, Stephen J. Hopkins, Aurel Popa-Wagner, Ana Maria Buga, and Mark Slevin (2014) Neuroinflammation and Immune Regulation in Ischemic Stroke: Identification of New Pharmacological Targets. *Neuroinflammation and Neurodegeneration*. Drs. Peterson and Torborek (Editors). Springer Science+Business Media New York
2. Ryszard Pluta, Aurel Popa-Wagner. Chapter 3. Ischemic stroke and cognitive impairment.
3. In *Medicine in 21st Century*. Vol 1, pp. 1-25, 2013. <http://eboolink.com/currentissue.aspx>
4. Popa-Wagner A, Pirici D, Petcu EP, Mogoanta A, Ana-Maria Buga, Rosen, CL, Leon R and Jason D. Huber. Chapter I. Cerebral Circulation: Anatomy, Distribution and Physiopathology. In *Advances in Medicine and Biology*. Vol. 8, pp. 1-45. Ed. Leon V. Berhardt. NOVA Publishers, 2010. ISBN: 978-1-61728-009-2
5. Aurel Popa-Wagner, Adrian Balseanu, Leon Zagrean, Imtiaz M. Shah , Mario Di Napoli, Zaal Kokaia and Henrik Ahlenius. Editor. Kenneth Maiese Chapter 17: Neurobiology of Post-Ischemic Recuperation in the Aged Mammalian Brain. In: *Neurovascular Medicine: Pursuing Cellular Longevity for Healthy Aging*. Oxford University Pres. 2008. ISBN: 978-0-19-532669-7
6. Aurel Popa-Wagner, Daniel Pirici, Laurentiu Mogoanta, Thomas Stanley Carmichael, Vincent Di Napoli and Charles Rosen. Regeneration of tissue and function after cerebral ischemia in the aged rats: New therapeutic strategies. In: *Recent Advances and New Strategies in Stroke Research*, Editor: Franciska Erdö, 2008, ISBN: 978-81-7895-385-4
7. Aurel Popa-Wagner. Chapter IV – Alzheimer’s disease pathological factors in ischemic aged brain; in *Ischemia-Reperfusion Pathways in Alzheimer’s Disease*. pp. 51-84., Dept. of Neurology, Univ. of Greifswald, Greifswald, Germany. Ed. R. Pluta, NOVA Publishers, 2007. ISBN: 978-1-60021-744-9