

CURRICULUM VITAE

Raymond Philip Roos, M.D.

DATE OF BIRTH: April 5, 1944

PLACE OF BIRTH: Brooklyn, New York

MARITAL STATUS: Married, 1 child

DEGREES AND BOARD CERTIFICATION:

A.B., Columbia College	1964
M.D., State University of New York, Downstate Medical Center	1968
Board Certified American Board of Psychiatry and Neurology	1976

ACADEMIC HONORS:

Dean's List, Columbia College	1964
Engel Summer Clinical Fellowship	1967
Engel Scholarship	1967
Co-author of publication receiving Matthew T. Moore Award, 47th Annual Meeting of American Association of Neuropathologists	1971
California Chapter to Combat Huntington's Disease Workshop Fellowship	1973
National Institute of Neurological Diseases and Stroke Special Fellowship	1974 - 1976
Schwepp Foundation Career Development Award	1978 - 1981
National MS Senior Fellowship Award	1988 - 1989
National Institutes of Health National Research Service Award	1988 - 1989
AAAS Fellow in Medical Science (For studies on the mechanisms of degenerative diseases in viral and non-viral diseases, particularly for studies of picorna- virus central nervous system infections)	2004
Best Doctors, Chicago Consumers' Checkbook	2004
Donald W. Mulder award (given by the ALS Association for "individuals who exemplify the traits of leadership, dedication, and achievement in combating ALS")	2004
Member, Johns Hopkins Society of Scholars ("to honor distinguished former post- doctoral fellows and junior or visiting faculty of the University")	2005
Top Doctors, Chicago magazine	2004... 2014
University of Chicago Dept. of Neurology Best Teacher of the Year Award	2008
Iron Man Award given by the ALS Association	2011

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PROFESSIONAL SOCIETIES, COMMITTEES, AND EDITORIAL BOARDS:

Medical Advisor, Committee to Combat Huntington's Disease Baltimore Chapter	1971 - 1976
American Academy of Neurology	1973 - present
American Academy for the Advancement of Science	1972 - present
American Society of Microbiology	1976 - present
American Neurological Association (Fellow – 2013)	1986 - present
Member of Scientific Board, Northern Chicago Chapter of National Multiple Sclerosis Society	1986 - 1991
Member of National Multiple Sclerosis Society Advisory Committee on Fellowships	1986 - 1990
American Society for Virology	1987 - present
International Society for NeuroVirology	1998 - present
Member of Scientific Advisory Board, Families of Spinal Muscular Atrophy	1985 - 2000
Chairman, Professional Advisory Committee; Member, Board of Trustees; Northern Chicago Chapter of National Multiple Sclerosis Society	1989 - 1992
NINDS, NIH, Program Project Review Committee Study Section	1990 - 1994
Advisory Board, Gazette International Networking Institute	1991 – 1995
Vaccines and Related Biological Products Advisory Committee, U.S. Food and Drug Administration (FDA)	1993 - 1996
Chairman, Vaccines and Related Biological Products Advisory Committee, FDA	1995 – 1996
Editorial Board, J. Neuroimmunology	1994 - 2001
Associate Editor, J. NeuroVirology	1994 - 2000
Scientific Review Committee, ALS Association	1995 - 1998
Scientific Advisory Board, The Neuropathy Association	1995 - 2000
Medical Advisory Board, National Multiple Sclerosis Society	1996 - present
NIH Virology Study Section	1996 - 2000
Fellow, American Academy of Neurology	1996 - present
Transmissible Spongiform Encephalopathies Advisory Committee, FDA	1996 - 2001
The Scheppe Foundation, Medical Advisory Board	1997 - 2004
The National Academy of Sciences Institute of Medicine Committee to Examine “Multiple Sclerosis; Current Status and Strategies for the Future”	1999 - 2000
Chairman, Scientific Review Committee, ALS Association	2000 - 2001
American Academy of Neurology Scientific Program Subcommittee	2000 - 2003
Senior Associate Editor, MedLink	2001 - present
Editorial Board, Annals of Neurology	2002 - 2014
National Multiple Sclerosis Society Research Programs Advisory Committee	2002 - 2009
The National Academy of Sciences Institute of Medicine Committee to Examine “Transmissible Spongiform Encephalopathies”	2002 - 2003
American Academy of Neurology Science Committee	2003 - 2010
American Academy of Neurology Basic Science Subcommittee (Chair)	2004 - 2009
Member, Scientific Review Committee, ALS Association	2004 - 2006
Editorial Board, J. Virology	2005 – 2010
Grants Review Working Group, California Institute for Regenerative Medicine	2005 - present

Chairman, National Multiple Sclerosis Society Research Programs Advisory Committee	2007- 2009
Editorial Board, Virology	2013 – present
Oversight Panel for New York Stem Cell Science-funded State University of New York Consortium	2013 – present
Hot Topics in Science Expert Review Advisory Panel, American Academy of Neurology	2014 - present
Transmissible Spongiform Encephalopathies Advisory Committee, FDA	2014-present
Associate Editor, Neurology Genetics	2015-present
Cellular, Tissues and Gene Therapies Advisory Committee, FDA	2017-present
Neuro-infectious Expert Review Panel, American Academy of Neurology	2017-present

CLINICAL TRAINING:

Neurology Clerkship, National Hospital, Queen Square, London, England	July, 1967 - September, 1967
Neurology Clerkship, Mount Sinai Hospital, New York City, NY	September, 1967 – December, 1967
Internship, Straight Medicine, State University of New York, Kings County Hospital, Brooklyn, New York	July, 1968 – July, 1969
Residency, Neurology, The Johns Hopkins Hospital, Baltimore, Maryland	July, 1971 – July, 1974
Instructor, Neurology Department, The Johns Hopkins Hospital, Baltimore, Maryland	July, 1974 – August, 1976
Neurology Consultant, Moore Genetics Clinic, The Johns Hopkins Hospital, Baltimore, Maryland	July, 1975 – August, 1976

NON-CLINICAL PROFESSIONAL EXPERIENCE:

Public Health Service Traineeship, State Virus Laboratory, Trenton, New Jersey	July, 1967 - September, 1967
Staff Associate, Special Chronic Diseases Study Section, National Institute of Neurological Diseases and Stroke, National Institutes of Health, Bethesda, Maryland	July, 1969 – July, 1971
Medical Researcher "Solomon Islands Expedition," on the Research Vessel Alpha Helix, supervised by the Scripps Institution of Oceanography, funded by the National Science Foundation	Sept., 1972 - December, 1972
Fellowship, Neurovirology and Immunology, The Johns Hopkins School of Medicine, Baltimore, Maryland	July, 1974 – August, 1976

Research Associate, Visiting Professor, Department of Cellular, Viral and Molecular Biology, University of Utah Medical Center, Salt Lake City, Utah	September, 1980 - July, 1981
Visiting Scientist, Department of Microbiology and Molecular Genetics, University of California - Irvine, Irvine, California	February, 1988 - January, 1989
<u>HOSPITAL AND UNIVERSITY APPOINTMENTS:</u>	
Assistant Professor, Neurology Department, The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	August, 1976 – July, 1982
Member of Committee on Virology, The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	January, 1977 – October, 2002
Member of Committee on Neurobiology, Committee on Immunology, The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	January, 1977 - present
Associate Professor, Neurology Department, The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	July, 1982 – July, 1986
Member of Committee of Neurobiology, The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	January, 1986 - present
Professor, Neurology Department, The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	July, 1986 – present
Chairman, Department of Neurology The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	November, 1996 – July, 2004
Marjorie and Robert E. Straus Professor in Neurological Science	January, 2001- present
Member of the Committee on Microbiology, The University of Chicago, Division of Biological Sciences and the Pritzker School of Medicine	2002 –present
Associate Chair for Education, Neurology Department	2007-present

TRAINEES

Predoctoral MS students

Susan Firestone 78-79
Mark Routbort 90

Predoctoral PhD students

David Mattson (MD/PhD) '79-81
Sorachai Nitayaphan 84-88
Steven Stein 85-93
Wing Kong 86-94
Hsiao-Huei Chen 91-95
C.C. Wehl 96-99
Steven Guest 99-04
Spyridon Stavrou 05-11
Brian Cheng 11-14

Postdoctoral fellows

Luigi Grimaldi, MD 83-84, 86-87
Yoshiro Ohara, MD, PhD 84-87
Jianlin Fu, PhD 86-90
Ghanashyam Ghadge, PhD 94-96
Janet Rinehar, PhD 94-96
Shigeru Sato, PhD 94-97
Ricardo Gomez, PhD 94-98
Kenji Yamasaki, MD 97-99
Misashi Kohanawa, PhD 99-01
Xiaoqi Lin, MD 98-02
Evgeny Pilipenko, PhD 99-02
Christine Gerin, PhD 00-02
Xing Ma 00-03
Gleb Baida, PhD 02-05
Lijun Wang, MD, PhD 02-05
Yoshifume Sonobe, PhD 14-present
Katsuhisa Masaki, MD 17-present

BIBLIOGRAPHY

ORIGINAL ARTICLES

1. Roos, R.P., Chou, S.M., Rogers, N.G., Basnight, M. and Gajdusek, D.C.: Isolation of an adenovirus 32 "strain" from human brain in a case of subacute encephalitis. *Proc. Soc. Exp. Biol. Med.* 139:636-640, 1972.
2. Brown, P., Hooks, J., Roos, R.P., Gajdusek, D.C. and Gibbs, C.J., Jr.: Attempt to identify the agent for Creutzfeldt-Jakob disease by antibody relationship to known viruses. *Nature New Biol.* 235:149-152, 1972
3. Bobowick, A.R., Matthews, M.R., Brody, J.A., Roos, R.P. and Gajdusek, D.C.: Jakob-Creutzfeldt disease: A case control study. *Am. J. Epidemiol.* 98:381-394, 1973.
4. Chou, S.M., Roos, R.P., Burrell, R., Gutmann, L. and Harley, J.B.: Subacute focal adenovirus encephalitis. *J. Neuropath. Exp. Neurol.* 32:34-49, 1973.
5. Ferber, R.A., Wiesenfeld, S.L., Roos, R.P., Bobowick, A.R., Gibbs, C.J., Jr. and Gajdusek, D.C.: Familial Creutzfeldt-Jakob disease: Transmission of the familial disease to primates. In: *Proceedings of the X International Congress of Neurology* (Eds. Subirana, A. and Burrows, J.M.). Excerpta Medica, Amsterdam, 1973, pp. 358-380.
6. Roos, R., Gajdusek, D.C. and Gibbs, C.J., Jr.: The clinical characteristics of transmissible Creutzfeldt-Jakob disease. *Brain* 96:1-20, 1973.
7. Burek, J.D., Roos, R.P. and Narayan, O.: Virus induced abortion: Studies of equine herpesvirus 1 (abortion virus) in hamsters. *Lab. Invest.* 33:400-406, 1975.
8. Roos, R.P., Kirkpatrick, C., Godoth, N., Berman, W. and Rary, J.: An immunologic and cytogenetic investigation of tuberous sclerosis. *Ann. Neurol.* 1:192-194, 1977.
9. Roos, R.P., Griffin, D.G. and Johnson, R.T.: Determinants of measles virus (hamster neurotrophic strain) replication in mouse brain. *J. Infect. Dis.* 137:722-727, 1978.
10. Pericak-Vance, M.A., Conneally, P.M., Merritt, A.D., Roos, R., Norton, J.A. Jr. and Vance, J.M.: Genetic linkage studies in Huntington disease. *Winnipeg Conference (1977): IV International Workshop on Human Gene Mapping. Birth Defects: Orig. Art. Ser. The National Foundation, New York. Cytogenet. Cell Genet.* 22:640-645, 1978.
11. Roos, R.P. and Wollmann, R.: Non-productive paramyxovirus infection: Nariva virus infection in hamsters. *Arch. Virology* 62:229-240, 1979.

12. Noronha, A.B.C., Antel, J.P., Roos, R.P. and Arnason, B.G.W.: Changes in concanavalin A capping of human lymphocytes with age. *Mechanisms of Ageing and Development* 12:331-337, 1980.
13. Noronha, A.B.C., Roos, R.P., Antel, J.P. and Arnason, B.G.W.: Huntington's disease: Abnormality of lymphocyte capping. *Ann. Neurol.* 6:162-164, 1979.
14. Stefansson, K., Antel, J.P., Oger, J., Burns, J., Noronha, A.B.C., Roos, R.P., Arnason, B.G.W. and Gudmundsson, G.: Autosomal dominant cerebrovascular amyloidosis: Properties of peripheral blood lymphocytes. *Ann. Neurol.* 7:436-440, 1980.
15. Viola, M.V., Myers, J.C., Gann, K.L., White, L. and Roos, R.P.: Failure to detect poliovirus genetic information in amyotrophic lateral sclerosis. *Ann. Neurol.* 5:402-403, 1979.
16. Roos, R.P., Viola, M.V., Wollmann, R., Hatch, M. and Antel, J.P.: Amyotrophic lateral sclerosis with antecedent poliomyelitis. *Arch. Neurol.* 37:312-313, 1980.
17. Mattson, D.H., Roos, R.P. and Arnason, B.G.W.: Isoelectric focusing of IgG eluted from multiple sclerosis, subacute sclerosing panencephalitis, and normal brains. *Nature* 287:335-337, 1980.
18. Mattson, D.H., Roos, R.P. and Arnason, B.G.W.: Immunoperoxidase staining of cerebrospinal fluid IgG in isoelectric focusing gels: A sensitive new technique. *J. Neurosci. Meth.* 3:67-75, 1980.
19. Mattson, D.H., Roos, R.P. and Arnason, B.G.W.: Comparison of agar gel electrophoresis and isoelectric focusing in multiple sclerosis and subacute sclerosing panencephalitis. *Ann. Neurol.* 9:34-41, 1981.
20. Roos, R.P., Graves, M.D., Wollmann, R.L., Chilcote, R.R. and Nixon, J.: Immunologic and virologic studies of measles inclusion body encephalitis in an immunosuppressed host: The relationship to subacute sclerosing panencephalitis. *Neurology* 31:1263-1270, 1981.
21. Whitacre, C.C., Mattson, D.H., Paterson, P.Y., Roos, R.P., Peterson, D.J. and Arnason, B.G.W.: Cerebrospinal fluid and serum oligoclonal IgG bands in rabbits with experimental allergic encephalomyelitis. *Neurochem. Res.* 6:87-96, 1981.
22. Noronha, A.B.C., Antel, J.P., Roos, R.P. and Medof, M.E.: Circulating immune complexes in neurological disease. *Neurology* 31:1402-1407, 1981.
23. Mattson, D.H., Roos, R.P., Hopper, J. and Arnason, B.G.W.: Light chain composition of cerebrospinal fluid oligoclonal IgG bands in multiple sclerosis and subacute sclerosing panencephalitis. *J. Neuroimmunol.* 3:63-76, 1982.

24. Mattson, D.H., Roos, R.P. and Arnason, B.G.W.: Oligoclonal IgG in multiple sclerosis and subacute sclerosing panencephalitis brains. *J. Neuroimmunol.* 2:261-276, 1982.
25. Roos, R.P., Firestone, S., Wollmann, R., Variakojis, D. and Arnason, B.G.W.: The effect of early and chronic immunosuppression on Theiler's virus demyelination. *J. Neuroimmunol.* 2:223-234, 1982.
26. Roos, R.P., Richards, O., Green, J.A. and Ehrenfeld, E.: Characterization of a cell culture persistently infected with the DA strain of Theiler's virus. *J. Virol.* 43:1118-1122, 1982.
27. Whitacre, C.C., Mattson, D.H., Day, E.D., Peterson, D.J., Paterson, P.Y, Roos, R.P. and Arnason, B.G.W.: Oligoclonal IgG in rabbits with experimental allergic encephalomyelitis: Non-reactivity of the bands with sensitizing neural antigens. *Neurochem. Res.* 7:1209-1221, 1982.
28. Roos, R.P., Richards, O. and Ehrenfeld, E.: Analysis of Theiler's virus isolates from persistently infected mouse nervous system. *J. Gen. Virol.* 64:701-706, 1983.
29. Roos, R.P. and M. Lichter: Silver staining of cerebrospinal fluid IgG in isoelectric focusing gels. *J. Neurosci. Meth.* 8:375-380, 1983.
30. Stefansson, K., Marton, L., Antel, J.P., Wollmann, R.L., Roos, R.P., Chejfec, C. and Arnason, B.G.W.: Neuropathy accompanying IgM monoclonal gammopathy. *Acta Neuropathologica* 59:255-261, 1983.
31. Roos, R.P. and Whitelaw, P.J.: Biochemical analysis of DA strain of Theiler's murine encephalomyelitis virus obtained directly from acutely infected mouse brain. *Infect. and Immun.* 44:642-649, 1984.
32. Roos, R.P. and Wollmann, R.: DA virus demyelination in Nude mice. *Ann. Neurol.* 15:494-499, 1984.
33. Roos, R.P., Davis, K. and Meltzer, H.Y. Immunoglobulin studies in psychiatric disease patients. *Arch. Gen. Psych.* 42:124-128, 1985.
34. Roos, R.P.: B cell abnormalities in multiple sclerosis: a hypothesis. *Arch. Neurol.* 42:73-75, 1985.
35. Nitayaphan, S., Toth, M.M. and Roos, R.P.: Neutralizing monoclonal antibodies to Theiler's murine encephalomyelitis viruses. *J. Virol.* 53:651-657, 1985.
36. Grimaldi, L.M.E., Roos, R.P., Nalefski, E.A. and Arnason, B.G.W.A.: Oligoclonal IgA bands in multiple sclerosis and subacute sclerosing panencephalitis. *Neurology* 35:813-817, 1985.

37. Stowring, L., Haase, A.T., Petursson, G., Georgsson, G., Palsson, P., Lutley, R., Roos, R.P. and Szuchet, S.: Demyelination in the slow infection visna: detection of viral antigen and RNA in glial elements. *Virology* 41:311-318, 1985.
38. Nitayaphan, S., Toth, M. and Roos, R.P.: Localization of a neutralization site of Theiler's murine encephalomyelitis viruses. *J. Virol.* 56:887- 895, 1985.
39. Huttenlocher, P.R., Picchietti, D.L., Roos, R.P., Cashman, N.R., Horowitz, B. and Horowitz, M.S.: Intrathecal interferon in subacute sclerosing panencephalitis (SSPE). *Ann. Neurol.* 19:303-305, 1986.
40. Salazar-Gruesso, E.F. and Roos, R.P.: Sciatic endometriosis: A treatable sensorimotor mononeuropathy. *Neurology* 36:1360-1363, 1986.
41. Nitayaphan, S., Omilianowski, D., Toth, M.M., Parks, S., Rueckert, R.R., Palmenberg, A.C. and Roos, R.P.: Relationship of Theiler's murine encephalomyelitis viruses to the cardiovirus genus of picornaviruses. *Intervirology* 26:140-148, 1986.
42. Roos, R.P., Nalefski, E., Nitayaphan, S., Variakojis, R. and Singh, K.K.: An isoelectric focusing study of the humoral immune response in Theiler's virus demyelinating disease. *J. Neuroimmunol.* 13:305-314, 1987.
43. Cashman, N.R., Maselli, R., Wollmann, R.L., Roos, R.P., Simon, R. and Antel, J.P.: Late denervation in patients with prior paralytic poliomyelitis. *New Engl. J. Med.* 317:7-12, 1987.
44. Ohara, Y. and Roos, R.: The antibody response in Theiler's virus infection: New perspectives on multiple sclerosis. *Prog. Med. Virology* 34: 156-179, 1987.
45. Clatch, R.J., Pevear, D.C., Rozhon, E., Roos, R.P., Miller, S.D. and Lipton, H.L.: Characterization and specificity of humoral immune responses to Theiler's murine encephalitis virus capsid proteins. *J. Gen. Virol.* 68:3191-3196, 1987.
46. Salazar-Gruesso, E.F., Rosenberg, R.S. and Roos, R.P.: Sleep apnea in olivopontocerebellar degeneration: treatment with trazodone. *Ann. Neurol.* 23:399-401, 1988.
47. Baczko, K., Liebert, U.G., Cattaneo, R., Billeter, M.A., Roos, R.P. and ter Meulen, V.: Restriction of measles virus gene expression in measles inclusion body encephalitis. *J. Inf. Dis.* 158:144-149, 1988.
48. Grimaldi, L.M.E., Roos, R.P., Devare, S.G., Robey, G.W., Casey, J.M., Gurney, M.E., Apatoff, B.R. and Lazzarin, A.: Restricted heterogeneity of antibody to gp120 and p24 in AIDS. *J. Immunol.* 141:114-117, 1988.

49. Grimaldi, L.M.E., Roos, R.P., Lazzarin, A., Moroni, M., Casey, J.M. and Devare, S.G.: Human immunodeficiency virus gp120 and p24 oligoclonal antibody in acquired immunodeficiency syndrome cerebrospinal fluid and sera. *Ann. N.Y. Acad. Sci.* 540:611-614, 1988.
50. Ohara, Y., Stein, S., Fu, J., Stillman, L., Klamann, L. and Roos, R.P.: Molecular cloning and sequence determination of DA strain of Theiler's murine encephalomyelitis virus. *Virology* 164:245-255, 1988.
51. Grimaldi, L.M.E., Roos, R.P., Manservigi, R., Spear, P.G., Lakeman, F.D., and Whitley, R.J.: An isoelectric focusing study in herpes simplex virus encephalitis. *Ann. Neurol.* 24:227-232, 1988.
52. Grimaldi, L.M.E., Castagna, A., Lazzarin, A., Pristera, R., Biachi, G., Moroni, M. and Roos, R.P.: Oligoclonal IgG bands in cerebrospinal fluid and serum during asymptomatic human immunodeficiency virus infection. *Ann. Neurol.* 24:277-279, 1988.
53. Grimaldi, L.M.E., Roos, R.P., Devare, S.G., Casey, J.M., Maruo, Y., Hamada, Y. and Tashiro, K.: CSF oligoclonal IgG bands in HAM, but not in multiple sclerosis, contain anti-HTLV-1 p24 antibody. *Ann. Neurol.* 24:727-731, 1988.
54. Ohara, Y. and Roos, R.P.: Viral infectious complementary-DNA studies may identify nonviral genes critical to central nervous system disease. *Ann. Neurol.* 25:305-309, 1989.
55. Ohara, Y., Senkowski, A., Fu, J., Klamann, L., Goodall, J., Toth, M. and Roos, R.P.: A trypsin-sensitive neutralization site on VP1 of Theiler's murine encephalomyelitis viruses (TMEV). *J. Virol.* 62:3527-3529, 1988.
56. Salazar-Grueso, E.F., Grimaldi, L.M.E., Roos, R.P., Variakojis, R., Jubelt, B. and Cashman, N.R.: Isoelectric focusing studies of serum and cerebrospinal fluid (CSF) in patients with antecedent poliomyelitis. *Ann. Neurol.* 26:709-713, 1989.
57. Roos, R.P., Stein, S., Routbort, M., Senkowski, A., Bodwell, T. and Wollmann, R.: Theiler's murine encephalomyelitis virus neutralization escape mutants have a change in disease phenotype. *J. Virol.* 63:4469-4473, 1989.
58. Siddique, T., Pericak-Vance, M., Brooks, B.R., Roos, R.P., Hung, W.-Y., Antel, J.P., Munsat, T.L., Phillips, K., Warner, B.S., Speer, M., Bias, W.B., Siddique, N.A. and Roses, A.D.: Linkage analysis in familial amyotrophic lateral sclerosis. *Neurology* 39:919-925, 1989.
59. Roos, R.P., Stein, S., Ohara, Y., Fu, J. and Semler, B.L.: Infectious cDNA clones of DA strain of Theiler's murine encephalomyelitis virus. *J. Virol.* 63:5492-5496, 1989.

60. Roos, R.P., Kong, W.P., and Semler, B.L.: Polyprotein processing of Theiler's murine encephalomyelitis virus. *J. Virol.* 63:5344-5353, 1989.
61. Roos, R.P.: Oligoclonal Bands in Multiple Sclerosis. (Telelecture) *Autoimmunity Forum - Neurology, Autoimmunity in Neurology*, 2(1):8-9, 1990.
62. Salazar-Grueso, E.F., Siegel, I. and Roos, R.P.: The post-polio syndrome (PPS): Evaluation and treatment. *Comprehensive Therapy* 16:24-30, 1990.
63. Salazar-Grueso, E.F., Routbort, M.J., Martin, J., Dawson, G. and Roos, R.P.: Polyclonal IgM Anti-GM₁ ganglioside antibody in patients with motor neuron disease (MND) and variants. *Ann. Neurol.* 27:558-563, 1990.
64. Fu, J., Stein, S., Rosenstein, L., Bodwell, T., Routbort, M., Semler, B.L. and Roos, R.P.: Neurovirulence determinants of genetically engineered Theiler's viruses. *Proc. Natl. Acad. Sci.* 87:4125-4129, 1990.
65. Salazar, E.F., Holzer, T.J., Gutierrez, R.A., Casey, J.M., Desai, S.M., Devare, S.G., Dawson, G. and Roos, R.P.: Familial spastic paraparesis (FSP) syndrome associated with HTLV-1 infection. *New Engl. J. Med.* 323:732-736, 1990.
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67. Fu, J., Rodriguez, M. and Roos, RP: Strains from both Theiler's virus subgroups encode a determinant for demyelination. *J. Virol.* 64:6345-6348, 1990.
68. Silverstein, M.D., Stocking, C.B., Antel, J., Beckwith, J., Roos, R.P. and Siegler, M.: Amyotrophic lateral sclerosis and life-sustaining therapy: Patients' desires for information, participation in decision making, and life-sustaining therapy. *Mayo Clin. Proc.* 66:906-913, 1991.
69. Zurbriggen, A, Thomas, C. Yamada, M., Roos, R.P. and Fujinami, R.S.: Direct evidence for amino acid 101 of VP-1 in central nervous system disease in Theiler's murine encephalomyelitis virus infection. *J. Virol.* 65:1929-1937, 1991.
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71. Kong, W.P. and Roos, R.P.: Alternative translation initiation site in DA strain of Theiler's murine encephalomyelitis viruses (TMEV). *J. Virol.* 65:3395-3399, 1991.

72. Grimaldi, L.M.E., Castagna, A., Maimone, D., Martino, G.V., Dolci, A., Pristera, R., Lazzarin, A. and Roos, R.P.: Kappa light chain predominance in serum and cerebrospinal fluid from human immunodeficiency virus type 1 (HIV-1)-infected patients. *J. Neuroimmunol.* 32:259-268, 1991.
73. Maselli, R.A., Cashman, N.R., Wollmann, R.L., Salazar-Grueso, E.F. and Roos R.P.: Neuromuscular transmission as a function of motor unit size in patients with prior poliomyelitis. *Muscle and Nerve* 15:648-655, 1992.
74. Rodriguez, M. and Roos, R.P.: Pathogenesis of early and late disease in mice infected with Theiler's virus using intratypic recombinant GDVII/DA viruses. *J. Virol.* 66:296-304, 1992.
75. Appelbaum, J.S., Roos, R.P., Salazar-Grueso, E.F., Buchman, A., Iannaccone, S., Glantz, R. and Siddique, T.: Intrafamilial heterogeneity in hereditary motor neuron disease. *Neurology* 42:1488-1492, 1992.
76. Stein, S.B., Zhang, L. and Roos, R.P.: Influence of Theiler's murine encephalomyelitis virus (TMEV) 5' untranslated region (UTR) on translation and neurovirulence. *J. Virol.* 66:4508-4517, 1992.
77. Rubeiz, H. and Roos, R.P.: Viral meningitis and encephalitis. *Sem. Neurol.* 12:165-177, 1992.
78. Moss, A.H., Heidkamp, P.C., Stocking, C.B., Roos, R.P., Brooks, B.R., and Siegler, M.: Home ventilation for amyotrophic lateral sclerosis patients: outcomes, attitudes, and appropriateness. *Neurology* 43:438-443, 1993.
79. Maselli, R.A., Wollmann, R.L., Leung, C.G., Distad, B., Palombi, S., Richman, D.P., Salazar-Grueso, E.F., and Roos, R.P.: Neuromuscular transmission in amyotrophic lateral sclerosis. *Muscle and Nerve* 16:1193-1203, 1993.
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ABSTRACTS

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