

CURRICULUM VITAE (4-30--2020)

NAME

Dr. Frederic A. Troy II, Ph.D.
Edward A. Dickson Distinguished Emeriti Professor
and Chairman Emeritus,
Department of Biochemistry and Molecular Medicine,
University of California School of Medicine
Co-Founding Member, UC Davis NIH Comprehensive Cancer Center and
UC San Diego Glycobiology Training Facility,
Tupper Hall, One Shields Ave.
Davis, CA 95616-8635

Professor (Adj.) and Senior Scientist
Chinese Academia of Science
Institute of Glycobiology & Biotechnology
Beijing, PR China (2019-present)

Professor (Adj.) of Molecular Medicine,
Xiamen University School of Medicine
Xiamen City, China (2018-2019)

Tel: (530) 752-3240 (Off.)
e-mail: fatroy@ucdavis.edu

RESEARCH INTEREST/EXPERTISE (based on publications):

Chemical & Biosynthetic Glycobiology; Sialic Acid Glycans/Polysialic Acid; Membrane Biophysics; Virology: Molecular Oncology/Metastasis; Molec. Mech. of Neurocognition.

EDUCATION

- 1961 Washington University, St. Louis, MO. B.S. in Chemistry.
- 1966 Purdue University, West Lafayette, IN, Ph.D. in Biophysical Chemistry
- 1966-1968 The Johns Hopkins University School of Medicine, Baltimore, MD, American Cancer Society Postdoctoral Fellowship in Biological Chemistry & Molecular Oncology.

RESEARCH AND PROFESSIONAL EXPERIENCE

- 1961-1966 U.S. Public Health Service (NIH) Pre-doctoral Trainee (Biological Chemistry), 1964-1966, and Research Scientist (Chemistry), 1961-1964, Departments of Chemistry and Biological Sciences, Purdue University, W. Lafayette, IN.
- 1966-1968 Postdoctoral Fellow of the American Cancer Society, Department of Biological Chemistry, The Johns Hopkins University, School of Medicine, Baltimore, MD.
- 1968-1980 Assistant to Full Professor of Biochemistry and Molecular Medicine, University of California, School of Medicine, Davis, California.
- 1972-1977 Co-Principal Investigator, National Cancer Institute (NIH) Training Grant in Tumor Biology, University of California School of Medicine, Davis, California.
- 1976-1977 Visiting Professor and American Cancer Society-Eleanor Roosevelt International Cancer Fellow, Department of Tumor Biology, Karolinska Institute Medical School, Stockholm, Sweden (with Professor Dr. George Klein).

| | |
|--------------|--|
| 1980-present | Professor of Biochemistry and Molecular Medicine, University of California, School of Medicine, Davis, California. |
| 1991-1995 | Chairman , Department of Biochemistry and Molecular Medicine, University of California School of Medicine, Davis, CA. |
| 1994-present | Co-Founding Faculty Member: UC Davis School of Medicine NIH Comprehensive Cancer Center, UCD Medical Center, Sacramento, CA. |
| 1998-present | Co-Founding Member: University of California San Diego Glycobiology Research & Training Center, San Diego, CA. |
| 2003-2013 | Co-Founder and CEO, SialoGen Therapeutics, Inc. Davis, CA. |
| 2013-present | Member, Scientific Advisory Board, Pyranoside Biotherapeutics, Inc. |
| 2007-2019 | Professor (Adj). Department of Molecular Medicine, Xiamen University School of Medicine, Xiamen City, China. |
| 2017-present | E.A. Dickson Distinguished Emeriti Professor, University of California |

HONORS

American Cancer Society Postdoctoral Scholar, 1966-1968; National Institutes of Health Postdoctoral Fellow, 1966-1968; NIH Research Career Development Award (NCI), 1975-1980; American Cancer Society-Eleanor Roosevelt Int'l Cancer Fellow, 1976-1977; NATO Grant for International Collaboration in Research, Max Planck Inst., Freiburg, Germany, 1984-1987; Elected President, Society for Glycobiology 1991-1992; President-Elect, American Medical and Graduate Schools Depts. of Biochemistry, 1994; Wine Tasting Judge, California State Fair; Nominated by Medical Students for the "*Kaiser Excellence in Teaching Basic Medical Sciences*"; Nominated by Junior Medical School faculty for the "*2004 Dean's Excellence in Mentoring Award*"; Co-recipient, Bill & Melinda Gates Foundation Research Grant (2012); Recipient, Mizutani Glycoscience Foundation Global Research Grant (2013); Edward A Dickson Emeriti Professorship Award (2017-); Keynote/plenary speaker at ~40 Natl./Int'l. Symposia (~1974-present); Plenary speaker, 11th Annual Symposium of the Society for Biotechnology & 2017 National Conference for Biotechnology & Glycobiology, Yichang, China, (Sept. 2017); Nominated for *The Dean of Biological Sciences*, Ohio State University; *Associate Dean for the Basic Sciences, UCD School of Medicine*; and *Chair, Department of Biochemistry & Molecular Biology* @ five University Schools of Medicine, US (declined all invitations); 35+ years of NIH Biomedical Research Funding.

CONSULTATIVE SERVICE

National Institutes of Health; National Science Foundation; Damon Runyon-Walter Winchell Cancer Fund; California Cancer Coordinating Committee; Veteran Administration Basic Sciences Medical Review Board; Univ. of Calif. Tobacco-Related Research Program, General Biomedical Sciences Study Section; NIH Clinical Nutrition Research Center (Dept. of Medicine, UCD); Human Frontier Science Program Organization (Strasbourg, France); U.S. Army Breast Cancer Research Study Sections (Pathobiology; Clinical and Experimental Therapeutics), Consultant, Nestles Neurodevelopmental Program, R & D (Lausanne, Switzerland & Beijing, China; Consultant and Member, Scientific Advisory Board, Pyranose Biotherapeutics, Inc.

EDITORIAL BOARDS

Journal of Biological Chemistry, 1987-1992

Glycobiology, 1990-2006 (Co-Founding member of the Society of Glycobiology and the Editorial Board of Glycobiology).

AD HOC REVIEWER (last 5 years) for:

Proceedings of the National Academy of Sciences; Biochemistry; Science; Journal of Organic Chemistry; Journal of Biological Chemistry; Glycobiology; Glycoconjugate Journal; European Journal of Biochemistry; Biotechnology and Bioengineering; Analytical Biochemistry; Biophysical Journal; Nature, Journal of Carbohydrate Chemistry, Biochemistry and Biophysical Acta, Molecular Microbiology; PloS One.

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

American Society of Biological Chemistry and Molecular Biology
American Association for Cancer Research
American Chemical Society
Biophysical Society
Biochemical Society (London)
American Society of Enologists
Society for Glycobiology
Sigma Xi
The American Federation for Clinical Research
American Association for the Advancement of Science
The Johns Hopkins Medical & Surgical Association (Life Member)

MILITARY SERVICE:

Honorable discharge. U.S. Air Force Medical Service Corp.. Eight years service (Res.).

FREDERIC A. TROY, II Publications

- 1969 **Troy II, F. A.** and Koffler, H., "***The Chemistry and Molecular Architecture of the Cell Walls of Penicillium chrysogenum***". J. Biol. Chem. **224**; 5563-5576.
- 1971 **Troy II, F. A.**, Frerman, F. E. and Heath, E. C., "***The Biosynthesis of Capsular Polysaccharide in Aerobacter aerogenes***". J. Biol. Chem. **246**; 118-133.
- 1971 Kayser, F. A., Benner, E. J., **Troy II, F. A.** and Hoeprich, P. D., "***Mode of Resistance Against β -Lactam Antibiotics in Staphylococci***". Annals of the New York Academy of Science **192**; 106-117.
- 1972 **Troy II, F. A.**, Frerman, F. E. and Heath, E. C., "***Synthesis of Capsular Polysaccharides of Bacteria***". In: Methods in Enzymology, Complex Carbohydrates, **28**; 602-662.
- 1973 **Troy II, F. A.**, "***Chemistry and Biosynthesis of the Poly- γ -D-Glutamyl Capsule in Bacillus licheniformis. I. Properties of the Membrane-mediated Biosynthetic Reaction***". J. Biol. Chem. **248**; 305-316.
- 1973 **Troy II, F. A.**, "***Chemistry and Biosynthesis of the Poly- γ -D-Glutamyl Capsule in Bacillus licheniformis. II. Characterization and Structural Properties of the Enzymatically Synthesized Polymer***". J. Biol. Chem. **248**; 316-324.
- 1973 **Troy II, F. A.**, Vijay, I. K. and Kawakami, T. G., "***Cyclic-3',5'-AMP-Dependent and Independent Protein Kinase Levels in Normal and Feline Sarcoma Virus Transformed Cells***". Biochemical and Biophysical Research Communications **52**; 150-158.
- 1974 Drlica, K., Gardner, J. M., Kado, C., Vijay, I. and **Troy II, F. A.**, "***Cyclic Adenosine 3',5'-Monophosphate Levels in Normal and Transformed Cells of Higher Plants***". Biochemistry and Biophysics Research Communications **56**; 753-759.

- 1975 **Troy II, F. A.**, Vijay, I. K. and Tesche, N., "**Role of Undecarpenyl Phosphate in Synthesis of Polymers Containing Sialic Acid in Escherichia coli**". J. Biol. Chem. **250**; 156-163.
- 1975 Vijay, I. K. and **Troy II, F. A.**, "**Properties of Membrane-Associated Sialyltransferase of Escherichia coli K1**". J. Biol. Chem. **250**; 164-170.
- 1975 Coates, G., DeNardo, S. J., DeNardo, C. L. and **Troy II, F. A.**, "**Pharmacokinetics of Radioiodinated Streptokinase**". Journal of Nuclear Medicine **16**;136-142.
- 1977 **Troy II, F. A.**, Fenyo, E. M. and Klein, G., "**Moloney Leukemia Virus-Induced Surface Antigen: Detection and Characterization in Sodium Dodecyl Sulfate Gels**". Proc. Natl. Acad. Sci. USA **74**; 5270-5274.
- 1978 **Troy II, F. A.** and Rohr, T. E., "**Structural Analysis and Biosynthetic Studies on Unique Polysialic Acid Cell Surface Polymers**". Proceedings of the IXth International Symposium on Carbohydrate Chemistry (London, England), 475-476.
- 1978 Fenyo, E. M., **Troy II, F. A.**, Siegert, W. and Klein, E., "**Moloney Leukemia Virus-Determined Cell Membrane Antigens**". In: Advances in Comparative Leukemia Research 1977, Eds. P. Bentvelzen, J. Hilgers, D. S. Yohn. Elsevier/North Holland Biomedical Press, Amsterdam The Netherlands, p. 331-336.
- 1979 **Troy; II, F. A.** and Fenyo, E. M., "**Structural Differentiation Between the Moloney Leukemia Virus-Determined Cell Membrane Antigen and Virion Structural Proteins**". Proceedings of the Fourth International Symposium on Glycoconjugates. Woods Hole, Massachusetts, 1977, Volume II, Eds. J. D. Gregory and R. W. Jeanloz. Academic Press, 1085-1090.
- 1979 Roder, J. C., Rosen, A., Fenyo, E. M. and **Troy II, F. A.**, "**Target-Effector Interactions in the Natural Killer Cell System: Isolation of Target Structures**". Proc. Natl. Acad. Sci. USA **76**; 1405-1409.
- 1979 Gardner, J. M. and **Troy II, F. A.**, "**Chemistry and Biosynthesis of the Poly(γ -D-glutamyl) Capsule in Bacillus licheniformis. Activation, Racemization and Polymerization of Glutamic Acid by a Membranous Polyglutamyl Synthetase Complex**". J. Biol. Chem. **254**; 6262-6269.
- 1979 **Troy II, F. A.** and McCloskey, M. A., "**Role of a Membranous Sialyltransferase Complex in the Synthesis of Surface Polymers Containing Polysialic Acid in Escherichia coli: Temperature-Induced Alteration in the Assembly Process**". J. Biol. Chem. **254**; 7377-7387.
- 1979 **Troy II, F. A.**, "**The Chemistry and Biosynthesis of Selected Bacterial Capsular Polymers**". Annual Review of Microbiology **33**; 519-560.
- 1979 Fenyo, E. M. and **Troy II, F. A.**, "**Altered Moloney Leukemia Virus-Determined Cell Surface Antigens in Lymphoma Sublines Selected for Immuno-resistance**". In: Current Trends in Tumor Immunology, Eds. S. Ferrone, S. Gorini, R. B. Heberman and R. A. Reisfeld. Garland STPM Press, New York, p. 211-217.
- 1980 Rohr, T. E. and **Troy II, F. A.**, "**Structure and Biosynthesis of Surface Polymers Containing Polysialic Acid in Escherichia coli**". J. Biol. Chem. **255**; 2332-2342.
- 1980 McCloskey, M. A. and **Troy II, F. A.**, "**Paramagnetic Isoprenoid Carrier Lipids I. Chemical Synthesis and Incorporation into Model Membranes**". Biochemistry **19**; 2056-2060.

- 1980 McCloskey, M. A. and Troy II, F. A., "**Paramagnetic Isoprenoid Carrier Lipids II. Dispersion and Dynamics in Lipid Membranes**". *Biochemistry* **19**; 2061-2066.
- 1980 Lutz, H., Pedersen, N. C., Higgins, J., Troy II, F. A. and Theilen, G. H., "**Long-term Immune Response to Feline Leukemia Virus Components in Cats After Natural Infection**". In: *Viruses in Naturally Occurring Cancers. Cold Spring Harbor Conferences on Cell Proliferations* **7**; 653-664. Cold Spring Harbor Laboratory, New York.
- 1980 Lutz, H., Pederson, N., Higgins, J., Hubacher, U., Troy II, F. A. and Theilen, G. H., "**Humoral Immune Reactivity to Feline Leukemia Virus and Associated Antigens in Cats Naturally Infected with Feline Leukemia Virus**". *Cancer Research* **40**; 3642-3651.
- 1981 Gilead, Z., Troy II, F. A. and Sulitzeanu, D., "**Isolation and Electrophoretic Analysis of Immune Complexes from Patients with Breast Cancer**". *European Journal of Cancer and Clinical Oncology* **17**; 1165-1176.
- 1981 Troy II, F.A., "**Wine Ranking: "Days of Wine and Lasers"**". *Science* **213**; 436- (Lett. To Editor)
- 1982 Troy II, F. A., Adams, D. A. and Whitfield, C., "**Lipid Dynamics During the Spontaneous Reactivation of a Membranous Sialyltransferase Complex (STC) in Escherichia coli K-235**". *Biophysical Journal* **37**; 85-86.
- 1982 Troy II, F. A., "**Chemistry and Biosynthesis of the Poly(γ -D-Glutamyl) Capsule in Bacillus licheniformis**". In: *Peptide Antibiotics - Biosynthesis and Functions. Enzymatic Formation of Bioactive Peptides and Related Compounds*. Eds. H. Kleinhauf and H. von Dohren, Walter de Gruyter, Berlin West Germany, p. 49-83.
- 1982 Troy II, F. A., Bose, S. K., Von Dohren, H., Vandamme, E. J., Kurahashi, K. and Ishihara, H., et al. "**Peptide Synthetase - Problems and Properties**". Summary of Round Table Discussion. In: *Peptide Antibiotics - Biosynthesis and Functions. Enzymatic Bioactive Peptides and Related Compounds*. Eds. H. Kleinhauf and H. von Dohren Walter de Gruyter Berlin West Germany, p. 369-371.
- 1982 Troy II, F. A., Vijay, I. K., McCloskey, M. A. and Rohr, T. E., "**Synthesis of Capsular Polymers Containing Polysialic Acid in Escherichia coli 07-K1**". In: *Methods in Enzymology, Complex Carbohydrates*, **83**; 540-548.
- 1982 Theilen, G. H., Pederson, N. C., Nunsman, B., Troy II, F. A. and Johnson, L., "**Immunoprevention Studies with ST-FeSV Induced Feline Fibrosarcoma Tumors**". *Advances in Comparative Leukemia Research 1981*, Eds. D. S. Yohn and J. R. Blakeslee. Elsevier/North Holland Biomedical Press, New York, New York, p. 233-234.
- 1982 DeNardo, G., DeNardo, S., Troy II, F.A., Krohn, K. and Miyao, N., "**Confirmation of a Procoagulant Process for Cancer Accumulation of Radioiodinated Fibrinogen**". In: *Nuclear Medicine and Biology*. Ed. C. Raymond. Pergamon Press, Paris, p. 174-176.
- 1983 Whitfield, C. and Troy II, F. A., "**The Biosynthesis of Capsular Polysialoglycoconjugates in Escherichia coli K1. Protein Synthesis Required for Reactivation of an Inactive Sialyltransferase Complex**". In: *Glycoconjugates*. Eds. M. A. Chester, D. Heinegard, A. Lundblad and S. Svensson. Rahms Sweden, p. 746-747.

- 1984 Lasky, R. D. and Troy II, F. A., "**Possible DNA-RNA Tumor Virus Interaction in Human Lymphomas: Expression of Retroviral Proteins in Ramos Lymphoma Lines is Enhanced After Conversion with Epstein-Barr Virus**". Proc. Natl. Acad. Sci. USA **81**; 33-37.
- 1984 de Ropp, J. S. and Troy II, F. A., "**Chemical Synthesis and ^2H NMR Investigation of Polyisoprenols. Dynamics in Model Membranes**". Biochemistry **23**; 2691-2695.
- 1984 Vimr, E. R., McCoy, R. D., Vollger, H. F., Wilkison, N. C. and Troy II, F. A., "**Use of Prokaryotic-Derived Probes to Identify Polysialic Acid in Neonatal Neuronal Membranes**". Proc. Natl. Acad. Sci. USA **81**; 1971-1975.
- 1984 Whitfield, C., Vimr, E. R., Costerton, J. W. and Troy II, F. A., "**Protein Synthesis is Required for *in vivo* Activation of Polysialic Acid Capsule Synthesis in Escherichia coli K1**". Journal of Bacteriology **159**; 321-328.
- 1984 Whitfield, C., Adams, D. A. and Troy II, F. A., "**Biosynthesis of the Polysialic Acid Capsule in Escherichia coli K1. Role of a Low Density Vesicle Fraction in Activation of the Endogenous Synthesis of Sialyl Polymers**". J. Biol. Chem. **259**; 12769-12775.
- 1984 Whitfield, C. and Troy II, F. A., "**Biosynthesis and Assembly of the Polysialic Acid Capsule in Escherichia coli K1. Activation of Sialyl Polymer Synthesis in Inactive Sialyltransferase Complexes Requires Protein Synthesis**". J. Biol. Chem. **259**; 12776-12780.
- 1985 Whitfield, C., Vimr, E. R., Costerton, J. W. and Troy II, F. A., "**Membrane Proteins Correlated with Expression of the Polysialic Acid Capsule in Escherichia coli K1**". Journal of Bacteriology **161**; 743-749.
- 1985 Au-Young, J. K., Troy II, F. A. and Goldstein, E., "**Serologic Analysis of Antigen Specific Reactivity in Patients with Systemic Candidiasis**". Diagnostic Microbiology and Infectious Disease **3**; 419-432.
- 1985 Troy II, F. A., "**Capsular Poly- γ -D-Glutamyl Synthesis in Bacillus licheniformis**". In: Methods of Enzymology, Glutamate Metabolism, **113**; 146-168.
- 1985 de Ropp, J. S. and Troy II, F. A., " **^2H NMR Investigation of the Organization and Dynamics of Polyisoprenols in Membranes**". J. Biol. Chem. **260**; 15669-15674.
- 1985 McCoy, R. D., Vimr, E. R. and Troy II, F. A., "**CMP-NeuNAc:Poly- α ,8-Sialosyl Sialyltransferase and the Biosynthesis of Polysialosyl Units in Neural Cell Adhesion Molecules**". J. Biol. Chem. **260**; 12695-12699.
- 1985 Vimr, E. R. and Troy II, F. A., "**Identification of an Inducible Catabolic System for Sialic Acid (*nan*) in Escherichia coli**". Journal of Bacteriology **164**; 845-853.
- 1985 Vimr, E. R. and Troy II, F. A., "**Regulation of Sialic Acid Metabolism in Escherichia coli: Role of N-Acylneuraminate Pyruvate-Lyase**". Journal of Bacteriology **164**; 854-860.
- 1985 Rutishauser, U., Watanabe, M., Silver, J., Vimr, E. R. and Troy II, F. A. "**Specific Alteration of N-CAM-Mediated Cell Adhesion by an Endoneuraminidase**". J. Cell Biol. **101**; 1842-1849.
- 1986 Troy II, F. A., Hallenbeck, P. C., McCoy, R. D. and Vimr, E. R., "**Detection of Polysialosyl-Containing Glycoproteins in Brain Using Prokaryotic-Derived Probes**". In: Methods in Enzymology, Complex Carbohydrates, **138**; 169-185.

- 1986 McCoy, R. D. and Troy II, F. A., "***CMP-NeuNAc:Poly- α -2,8-Sialosyl Sialyltransferase: Role in Biosynthesis of Polysialosyl Units in Neural Cell Membranes***". In: Methods in Enzymology, Complex Carbohydrates, **138**; 627-637.
- 1986 Rosenberg, J., Ellis, L., Troy II, F. A. and Kayalar, C., "***The 5B4 Antigen Expressed on Sprouting Neurons Contains α -2,8-Linked Polysialic Acid***". Developmental Brain Research **30**; 262-267.
- 1987 de Ropp, J. S., Knudsen, M. J. and Troy II, F. A., "***²H-NMR Investigation of the Dynamics and Conformation of Polyisoprenols in Model Membranes***". (1987) *Chemica Scripta*. 12th Nobel Symposium, Stockholm, Sweden, **27**; 101-108.
- 1987 Hallenbeck, P. C., Yu, F. and Troy II, F. A., "***Rapid Separation of Oligomers of Polysialic Acid by High Performance Liquid Chromatography***". *Anal. Biochem.* **161**; 181-186.
- 1987 Hallenbeck, P. C., Vimr, E. R., Yu, F., Bassler, B. L. and Troy II, F. A., "***Purification and Properties of a Bacteriophage-Induced Endo-N-Acetylneuraminidase Specific for Poly- α -2,8-sialosyl Carbohydrate Units***". *J. Biol. Chem.* **262**; 3553-3561.
- 1988 Livingston, B. D., McCoy, R. D., Jacobs, J. L., Glick, M. C. and Troy II, F. A., "***Structure, Synthesis and Function of Polysialosyl-Containing Glycoproteins on Cells of Neural Origin***". In: *Sialic Acid 1988, Proceedings Japanese-German Symposium on Sialic Acids* (R. Schauer, T. Yamakawa, eds.). Kieler Verlag Wissenschaft Bildung, p. 84-85.
- 1988 Livingston, B. D., Jacobs, J. L., Glick, M. C. and Troy II, F. A., "***Extended Polysialic Acid Chains ($n > 55$) in Glycoproteins from Metastatic Human Neuroblastoma Cells***". *J. Biol. Chem.*, **263**; 9443-9448.
- 1988 Kitajima, K., Inoue, S., Inoue, Y. and Troy II, F. A., "***Use of a Bacteriophage-Derived Endo-N-Acetylneuraminidase and an Equine Anti-Polysialyl Antibody to Characterize the Polysialyl Residues in Salmonid Fish Egg Polysialoglycoproteins***". *J. Biol. Chem.* **263**; 18269-18276.
- 1989 Troy II, F. A. and Knudsen, M. J., "***Molecular Motion and Conformational Studies of Glycosyl Carrier Lipids in Model Membranes: Summary of Results from EPR and NMR and their Possible Implications in Glycoconjugate Transport***". Proc. Ninth School on Biophysics of Membrane Transport (J. Kuczera and S. Przystalski, eds.). Publishing Department of the Agric. Univ. of Wroclaw, Wroclaw, Poland, **Vol. II**, 244-257.
- 1989 Knudsen, M. J. and Troy II, F. A., "***Nuclear Magnetic Resonance Studies of Polyisoprenol in Model Membranes***". *J. Chem. and Physics of Lipids* **51**; 205-212.
- 1989 Troy II, F. A., "***Synthesis and Regulation of Polysialic Acid Capsule Expression in Escherichia coli K1***". Proc. Xth International Symp. on Glycoconjugates. (N. Sharon, H. Lis, D. Duksin, I. Kahane, eds.) Organizing Committee Press, Jerusalem, Israel, **37**; 56-57.
- 1989 Janas, T. and Troy II, F. A., "***The Escherichia coli K1 Poly- α -2,8-sialosyl Sialyltransferase Is Topologically Oriented Toward the Cytoplasmic Face of the Inner Membrane***". Proc. Xth International Symp. on Glycoconjugates, (N. Sharon, H. Lis, D. Duksin, I. Kahane, eds.) Organizing Committee Press, Jerusalem, Israel, **142**; 207-208.

- 1989 Cho, J.-W. and Troy II, F. A., "**Gangliosides as Exogenous Acceptors to Map the Acceptor Sugar Requirements of the Poly- α -2,8-sialosyl Sialyltransferase in *Escherichia coli* K1**". Proc. Xth International Symp. on Glycoconjugates, (N. Sharon, H. Lis, D. Duksin, I. Kahane, eds.). Organizing Committee Press, Jerusalem, Israel, **143**; 209-210.
- 1989 Weisgeber, C. and Troy II, F. A., "**Biosynthesis of the Polysialic Acid Capsule in *Escherichia coli* K1. Identification of a 20 kDa Protein as the Endogenous Acceptor**". Proc. Xth International Symp. on Glycoconjugates. (N. Sharon, H. Lis, D. Duksin, I. Kahane, eds.) Organizing Committee Press, Jerusalem, Israel, **167**; 245-246.
- 1989 Merker, R. I. and Troy II, F. A., "**Low Temperature Sensitivity of Enzymes Associated with Synthesis of the Polysialic Acid Capsule in *Escherichia coli* K1**". Proc. Xth International Symp. on Glycoconjugates. (N. Sharon, H. Lis, D. Duksin, I. Kahane, eds.) Organizing Committee Press, Jerusalem, Israel, **168**; 247-248.
- 1989 Knudsen, M. J. and Troy II, F. A., " **2 H- and 31 P NMR Studies of Glycosyl Carrier Lipids in Membranes. Effect of Undecaprenyl and Dolichyl Phosphate on Bilayer Structure**". Proc. Xth International Symp. on Glycoconjugates. (N. Sharon, H. Lis, D. Duksin, I. Kahane, eds.) Organizing Committee Press, Jerusalem, Israel, **202**; 294-295.
- 1989 Livingston, B. D., Shaw, G. W., Glick, M. C. and Troy II, F. A., "**Polysialic Acid Expression in Human Neuroblastoma Cells**". Proc. Xth International Symp. on Glycoconjugates. (N. Sharon, H. Lis, D. Duksin, I. Kahane, eds.) Organizing Committee Press, Jerusalem, Israel, **297**; 429-430.
- 1990 Weisgerber, C. and Troy II, F. A., "**Biosynthesis of the Polysialic Acid Capsule in *Escherichia coli* K1. The Endogenous Acceptor of Polysialic Acid Is a Membrane Protein of 20 kDa**". J. Biol. Chem. **265**; 1578-1587.
- 1990 Iwasaki, M., Inoue, S. and Troy II, F. A., "**A New Sialic Acid Analogue, 9-O-Acetyl-deaminated Neuraminic Acid, and α -2,8-linked O-Acetylated Poly(N-glycolyneuraminy) Chains in a Novel Polysialoglycoprotein from Salmon Eggs**". J. Biol. Chem. **265**; 2596-2602.
- 1990 Merker, R.E. and Troy II, F. A., "**Biosynthesis of the Polysialic Acid Capsule in *Escherichia coli* K1. Cold Inactivation of Sialic Acid Synthase Regulates Capsule Expression Below 20°C**". Glycobiology. **1**; 93-100.
- 1990 Troy II, F. A., "**Polysialylation of Neural Cell Adhesion Molecules**", Trends in Glycoscience and Glycotechnology. **2**; 430-449.
- 1991 Glick, M. C., Livingston, B. D., Shaw, G. W., Jacobs, J. L. and Troy II, F. A., "**Expression of Polysialic Acid on Human Neuroblastoma**". Adv. Neuroblastoma Research **3**, (A.E. Evans, A.G. Knudson, R.C. Seeger and G. J. D'Angio, eds.), John Wiley and Son, NY, p. 267-274.
- 1991 Troy II, F. A., "**NMR Studies of Polyisoprenyl Derivatives on Bilayer Structure and the Translocation of Polysialic Acid Chains across the *E. coli* K1 Inner Membrane**". In: Nineteenth Nobel Symposium on "*Biosynthesis, Regulation and Products of the Mevalonate Pathway*", Karolinska Medico Chirurgiska Institute Press, p. 84-87.
- 1992 Troy II, F. A., "**Polysialylation: From Bacteria to Brains**", Glycobiology **2**; 5-23.

- 1993 Troy II, F. A., Cho, J.-W. and Ye, J., "**Polysialic Acid Capsule Synthesis and Chain Translocation in Neuroinvasive Escherichia coli K1. Activated Intermediates and a Possible Bifunctional Role for Undecaprenol**". In: Polysialic Acid: From Microbes to Man. Eds. J. Roth, U. Rutishauser and F. A. Troy, II, Birkhauser Verlag (Basel, Switzerland), p. 93-111.
- 1993 Terada, T., Kitazume, S., Kitajima, K., Inoue, S., Ito, F., Troy II, F. A. and Inoue, Y., "**Synthesis of CMP-deaminoneuraminic Acid (CMP-KDN) Using the CTP: CMP-3-deoxynonulosonate Cytidyl-transferase from Rainbow Trout Testis. Identification and Characterization of a CMP-KDN Synthetase**". J. Biol. Chem., **268**; 2640-2648.
- 1993 Roth, J., Rutishauser, N. and Troy II, F.A. (Eds). "**Polysialic Acid: From Microbes to Man**". Birkhäuser Verlag, Basel, Switzerland, 348 pgs.
- 1993 Terada, T., Kitazume, S., Kitajima, K., Inoue, S., Ito, F., Troy, F. A. and Inoue, Y. "**CMP-3-Deoxynonulosonate Synthetase Which Catalyzes the Transfer of CMP to KDN from CTP**". In: Polysialic Acid: From Microbes to Man. Eds. J. Roth, U. Rutishauser and F. A. Troy, II, Birkhauser Verlag (Basel, Switzerland), p. 191-199
- 1993 Sato, C., Kitajima, K., Tazawa, I, Inoue, Y, Inoue, S, Troy II, F. A. II. "**Structural Diversity in the α 2,8-linked Polysialic Acid Chains in Salmonid Fish Egg Glycoproteins. Occurrence of Poly(Neu5Ac), Poly(Neu5Gc), Poly(Neu5Ac, Neu5Gc), Poly(KDN), and Their Partially Acetylated Forms**". J. Biol. Chem., **268**; 23675-23684.
- 1994 T.Grogan, J. Guptil, J. Mullen, J. Ye, E. Hanneman, L. Vela, Y.Frutiger, T. Miller, F.A.Troy II "**Polysialylated NCAM as a Neurodeterminant in Malignant Lymphoma (ML)**". Lab. Invest. Jour. of the Academy of Pathology (1994) 70; Jan. 1994 (Abst. 637).
- 1994 Ye, J., Kitajima, K., Inoue, Y., Inoue, S. and Troy II, F. A. "**Identification of Polysialic Acid in Glycoconjugates**". Methods in Enzymology, Guide to Techniques in Glycobiology, **230**; 460-484.
- 1994 Kitazume, S., Kitajima, K., Inoue, S., Inoue, Y. and Troy II, F. A. "**Developmental Expression of Trout Egg Polysialoglycoproteins and the Prerequisite α 2,6- and α 2,8-Sialyl and α 2,8-Polysialyltransferase Activities Required for Their Syntheses During Oogenesis**". J. Biol. Chem., **269**; 10330-10340.
- 1994 Cho, J-W. And Troy II, F. A., "**Polysialic Acid Expression on Neuroinvasive Escherichia coli K1 and Human Cancers: Use of the E. coli K1 Polysialyltransferase to Synthesize Polysialylated Glycosphingolipids**". Complex Carbohydrates in Drug Research. Alfred Benzon Symposium 36 Eds. K. Bock, H. Clausen, P. Krosggaard-Karsen & H. Kofod. Munksgaard (Copenhagen). p. 260-279.
- 1994 Angata, T., Kitazume, S., Terada, T., Kitajima, K., Inoue, S., Troy II, F. A. and Inoue, Y. "**Identification, Characterization, and Developmental Expression of a Novel α 2,8-Linked KDN-Transferase Which Terminates Elongation of α 2,8-Linked Oligo-Polysialic Acid Chain Synthesis in Trout Egg Polysialoglycoproteins**". Glycoconjugate Journal **11**; 493-499.
- 1994 Kanamori, A., Inoue, S., Xulei, Z., Zuber, C., Roth, J., Kitajima, K., Ye, J., Troy II, F. A., Inoue, Y. "**Monoclonal Antibody Specific for α 2,8-linked Oligo Deaminated Neuraminic Acid (KDN) Sequences in Glycoproteins. Preparation and Characterization of a Monoclonal Antibody and Its Application in Immunohistochemistry**". Histochemistry, **101**; 333-340.

- 1994 Angata, T., Kitajima, K., Inoue, S., Chang, J., Warner, T. G., **Troy II, F. A.** and Inoue, Y. "**Identification, Developmental Expression and Tissue Distribution of Deaminoneuraminase Hydrolase (KDNase) Activity in Rainbow Trout**". *Glycobiology* **4**; 517-523.
- 1994 Kitajima, K., Kuroyanagi, H., Inoue, S., Ye, J., **Troy II, F. A.** and Inoue, Y. "**Discovery of a New Type of Sialidase, "KDNase," Which Specifically Hydrolyzes Deaminoneuraminyl (3-deoxy-D-glycero-D-galacto-2-nonulosonic acid) but not N-acetylneuraminyl Linkages**". *J. Biol. Chemistry*, **269**; 21415-21419.
- 1994 Kitazume, S., Kitajima, K., Inoue, S., **Troy II, F. A.**, Cho J-W., Lennarz, W. J. and Inoue, Y. "**Identification of Polysialic Acid-containing Glycoprotein in the Jelly Coat of Sea Urchin Eggs. Occurrence of a Novel Type of Polysialic Acid Structure**". *J. Biol. Chemistry*, **269**; 22712-22718.
- 1994 Cho, J-W. and **Troy II, F. A.**, "**Polysialic Acid Engineering: Synthesis of Polysialylated Glycosphingolipids by Using the Polysialyltransferase From Neuroinvasive Escherichia coli K1**". *Proc. Natl. Acad. of Sci., USA*, **91**; 11427-11431.
- 1994 Kitazume, S., Kitajima, K., Inoue, S., **Troy II, F. A.**, Lennarz, W. J. and Inoue, Y. "**Differential Reactivity of Two Types of N-glycolyneuraminic Acid Dimers Toward Enzymatic and Nonenzymatic Hydrolysis of Their Interketosidic Linkages**". *Biochemical and Biophysical Research Communications*, **205**; 893-898.
- 1995 **Troy II, F. A.** "**Sialobiology and the Polysialic Acid Glycotope: Occurrence, Structure, Function, Synthesis and Glycopathology**." In: *Biology of the Sialic Acids*, (A. Rosenberg, Ed.) Plenum Press, New York NY, p. 95-144.
- 1995 Sato, C., Kitajima, K., Inoue, S., Seki, T., **Troy II, F. A.** and Inoue, Y. "**Characterization of the Antigenic Specificity of Four Different Anti-(α 2 \rightarrow 8-linked Polysialic Acid) Antibodies Using Lipid-Conjugated Oligo/Polysialic Acids**". *J. Biol. Chem.* **270**; 18923-18928.
- 1996 Nishino, S., Kuroyanagi, H., Terada, T., Inoue, S., Inoue, Y., **Troy II, F.A.** and Kitajima, K. "**Induction, Localization, and Purification of a Novel Sialidase, Deaminoneuraminidase (KDNase), from Spingobacterium multivorum**". *J. Biol. Chem.*, **271**; 2902-2913.
- 1996 Cho, J-W., **Troy II, F.A.**, Inoue, S., Inoue, Y. and Lennarz, W.J. "**A Developmentally Regulated α -2,8-polysialyltransferase in Embryos of the Sea Urchin Lytechinus pietus**". *Developmental Growth Differ.* **38**; 477-487.
- 1998 Sevigny, M.B., Ye, J., Kitazume-Kawaguchi, S. and **Troy II, F.A.** "**Developmental Expression and Characterization of the α 2,8-Polysialyltransferase Activity in Embryonic Chick Brain**". *Glycobiology* **8**; 857-867.
- 1998 Inoue, S., Lin, S-L., Chang, T., Wu, S-H., Yao, C-W., Chu, T-Y., **Troy II, F. A.** and Inoue, Y., "**Identification of Free Deaminated Sialic Acid (KDN; 2-keto-3-deoxy-D-glycero-D-galacto-nononic acid) in Human Red Blood Cells and Its Elevated Expression in Fetal Cord Red Blood Cells and Ovarian Cancer**". *J. Biol. Chem.* **273**; 27199-27204.
- 1999 Inoue, Y., Lee, Y. C. and **Troy II, F. A.** (eds.) "**Sialobiology and Other Novel Forms of Glycosylation**". Gakushin Pub. Co. Osaka, Japan 307 pg.

- 1999 Lin, Shu-Ling, Inoue, Y., Kitazume-Kawaguchi, S., Lennarz, W. J., Sevigny, M. B., **Troy II, F. A.**, and Inoue, S., "**Analysis of Oligo/polysialic Acid Chains on Biologically Active Glycoproteins by High Performance Anion-Exchange Chromatography with Pulsed Electrochemical Detection.**" In: Sialobiology and Other Novel forms of Glycosylation (Inoue, Y., Lee, Y. C., and Troy, F.A. eds) Gakushin Publ. Co., Osaka, Japan. pg. 81-87.
- 1999 Sevigny, M. B., Zhang, L., Hatfield, S. D. and **Troy II, F. A.** "**Biochemical Studies to Elucidate the Molecular Mechanisms of α 2,8-Linked Polysialylation**". In: Sialobiology and Other Novel forms of Glycosylation (Inoue, Y., Lee, Y. C., and Troy, F.A. eds) Gakushin Publ. Co., Osaka, Japan. pg.171-182.
- 1999 Angata, T., Nakata, D., Matsuda, T., Kitajima, K., and **Troy II, F. A.** "**Biosynthesis of KDN (2-keto-3-deoxy-D-glycero-D-galacto-nononic acid). Identification and Characterization of a KDN-9-phosphate Synthetase Activity from Trout Testis**". J. Biol. Chem. **274**; 22949-22956
- 2000 Sato, C., Fukuoka, H., Ohta, K., Matsuda, T., Koshino, R., Kobayashi, K., **Troy II, F.A.**, and Kitajima, K., "**Frequent Occurrence of Pre-existing α 2 \rightarrow 8-linked Disialic and Oligosialic Acids with Chain Lengths Up to 7 Sia Residues in Mammalian Brain Glycoproteins: Prevalence Revealed by Highly Sensitive Chemical Methods and Anti-Di-, Oligo- and PolySia Antibodies Specific for Defined Chain Lengths**". J. Biol. Chem. **275**; 15422-15431.
- 2003 Zhou, G-P., and **Troy II, F.A.** "**Characterization by NMR and Molecular Modeling of the Binding of Polyisoprenols and Polyisoprenyl Recognition Sequence Peptides: 3D Structure of the Complexes Reveals Sites of Specific Interactions**". Glycobiology **13**; 51-71.
- 2004 **Troy II, F.A.** "**Polysialic Acid in Molecular Medicine**". Encyclopedia of Biological Chemistry **3**; 407-414.
- 2005 Zhou, G-P., and **Troy II, F.A.** "**NMR Study of the Preferred Membrane Orientation of Polyisoprenols (dolichol) and the Impact of Their Complex With Polyisoprenyl Recognition Sequence Peptides on Membrane Structure**". Glycobiology **15**; 347-359.
- 2005 Zhou, G-P., and **Troy II, F.A.** "**NMR Studies on How the Binding Complex of Polyisoprenol Recognition Sequence Peptides and Polyisoprenols Can Modulate Membrane Structure**". Current Protein and Peptide Science. **6**; 399-411.
- 2005 Park, H. H., Nakata, D., P. J. Donald and **Troy II, F. A.** "**Expression of Polysialylated Neural Cell Adhesion Molecules in Human Head and Neck Cancer**". Glycobiology **15**; 1251 (254).
- 2005 Nakata, D. and **Troy II, F.A.** "**Degree of Polymerization (DP) of Polysialic Acid (PolySia) on Neural Cell Adhesion Molecules (N-CAMs): Development and Application of a New Strategy to Accurately Determine the DP of PolySia Chains on NCAMs**". J. Biol. Chem. **280**; 38305-38316.
- 2006 Cong, X., Czerwiec, G. McJimpsey, E., Ahn, S., **Troy II, F. A.** and Lebrilla, C. B. "**Structural Relationships in Small Molecule Interactions Governing Gas-Phase Enantioselectivity and Zwitterionic Formation**". J. Am. Soc. Mass Spectrometry. Mar; **17**(3):442-452
- 2006 Nakata, D., Zhang, L. and **Troy II, F. A.** "**Molecular Basis for Polysialylation: A Novel Polybasic Polysialyltransferase Domain (PSTD) of 32 Amino Acids**

Unique to the α 2,8-polysialyltransferases is Essential for Polysialylation.
Glycoconjugate Jour. **23**;423-436.

- 2007 Park, K.H., Jang, K.H., Yeo, S. W., Rask-Anderson, H. and Troy II, F.A., "**Expression of Neural Cell Adhesion Molecule and Polysialic Acid in Cultured Spiral Ganglion Neurons**", Skull Base **17**;1055
- 2008 Wang, B., Hu, H., Yu, B., and Troy II, F. A., "**Molecular Characterization of Pig UDP-N-acetylglucosamine-2-epimerase/N-acetylmannosamine Kinase (Gne) Gene: Effect of Dietary Sia Supplementation on Gene Expression in Piglets**". Curr. Topics in Nutraceutical Res. **5**,(4). 165-176.
- 2008 Drake, P., Nathan, J., Stock, C., Chang, P., Muench, M., Nakata, D., Reader, R., Gip, P., Golden, K., Weinhold, B., Gerardy-Schahn, R., Troy II, F.A. and Bertozzi, C., "**The Highly Restricted Glycan, Polysialic Acid, is Differentially Expressed on Human and Murine Leukocytes and Modulated Immune Response**". J..Immunology,**181**; 6850-6858).
- 2009 Wong, J., Nakata, D., Troy II, F. A. and Gervay-Hague, J. "**Synthesis of Neutral CMP-Sialic Acid Analogs as Polysialyltransferase Inhibitors**". ACS San Francisco Mtg. Abst.
- 2009 Kyoung Ho Park, Sang Won Yeo and Frederic A. Troy II "**Polysialylated Neural Cell Adhesion Molecules Mediates Neuronal Differentiation in Adult Neural Stem Cells from Guinea Pig Spiral Ganglion Neurons**" Glycobiology (2009)**19**;1367 (266)
- 2009 Troy II, F.A. and Nakata, D. "**Kinetic Parameters of N-CAM Polysialylation Catalyzed by Purified Constructs of STX & PST and Their Differential Sensitivity to Detergents**". Glycobiology **19**; No. 11, 1341 (Abst.180).
- 2009 Troy II, Frederic A.. Park, Kyoung Ho and Yeo, Sang-Won. **Polysialic Acid and Neural Cell Adhesion Molecule Expression in Adult Stem Cells Cultured from Spiral Ganglion Neurons**. Glycobiology **19**; No. 11, 1367 (Abst. 266).
- 2010 Bum Jung Park, Paul J Donald, and Troy, F.A. II, "**Expression of Polysialylated Neural Cell Adhesion Molecules: Potential Role as a Prognostic Indicator for Squamous Cell Carcinoma in Head and Neck Cancers**". J. Otolaryngology-Head and Neck Surgery (2010)
- 2011 Wang, F., Xia.B., Wang, B. and Troy II, F.A. "**HPLC MS/MS Analyses of Free Neu5Ac, Neu5Gc and KDN (2-Keto-3-deoxy-D-glycero-D-galacto-nononic Acid) in Head & Neck Tumors of the Throat**" (Glycobiology **21**; No.11, Nov. 2011 (Abst.).
- 2011 Shan, Y., Yu, H., Wang, B., and Troy II, F.A. "**Expression of TriSia & PolySia in Human Cancers: Potential Role for Diagnostic & Prognostic Biomarkers for Cancer Screening**". Glycobiology Vol.11, No. 10 (Abst).
- 2011 Wang, F., Xia.B., Wang, B. and Troy II, F.A. "**LC MS/MS Analyses of Free Neu5Ac, Neu5Gc and KDN (2-Keto-3-deoxy-D-glycero-D-galacto-nononic Acid) in Head & Neck Tumors of the Throat**" Glycobiology **21**; No.11, Nov. 2011(Abst.).
- 2012 Chen HJ, Wang, P., Han, Y., Ma, J., Troy II, FA, Wang B. "**Evaluation of Dietary Intake of Lactating Women in China and its Potential Impact on the Health of Mothers and Infants**". BMC Women's Health **12**;(18) 1-10. DOI:10.1186/1472-6874-12-18.
- 2013 Chen, Y., Pan, L. Liu, N. Troy II, F. A. and Wang, B. "**LC-MS/MS Quantification of N-acetylneuraminic acid, N-glycolylneuraminic acid and ketodeoxynonulosonic acid**

- Levels in the Urine and Potential Relationship with Dietary Sialic Acid Intake and Disease in 3- to 5-year old Children".** *British Jour. of Nutrition.* **5**:1-10.
Doi:10.1017/S0007114513002468.
- 2014 Chen, Y., Zheng Z., Xi Zhu, X., Shi, Y., Tian, D., Huppi, P., **Troy II, F.A.** and Wang, B. "**Lactoferrin Promotes Early Brain Development and Cognition in Postnatal Piglets by Up-regulating the BDNF Signaling Pathway and Polysialylation**". *Molecular.Neurobiology* **52**; (1) 256-269 [SEP]. doi10.1007/s12035-014-8856-9.
- 2014 Park, K-P, Yeo, S-W and **Troy, II, F.A.** "**Expression of Polysialylated Neural Cell Adhesion Molecules on Adult Stem Cells After Neuronal Differentiation of Inner Ear Spiral Ganglion Neurons**". *Biochemical and Biophysical Research Communications.* doi:http://dx.doi.org/10.1016/j.bbrc.2014.05.035.
- 2014 Gan, HA, Zhang, QZ, Zhang, H. Chen, Y., Lin, JZ., Kang, TS, Zhang, JX, **Troy II, FA,** Wang, B. "**Development of New Population-averaged Standard Template for Spatial Normalization and Segmentation of MR Images for Postnatal Piglet Brains**". *Magnetic Resonance Imaging* (2014), <http://dx.doi.org/10.1016/j.mri.2014.08.036>.
- 2014 **Troy II, F.A.,** Zhu, Xi, Z., Z., Zhang, N., Chen, Y., Liu, N., and Wang, B., "**Molecular Characterization and Expression Analyses of ST8Sia II, III and IV in Piglets During Postnatal Development: Lack of Correlation Between Transcription and Posttranslational Levels**". (2014) *Glycobiology* **24**; No. 1155-1156 (191).
- 2014 Yang, C.W, Zhu, X, Liu, N, Chen, Y, Gan, H.A., **Troy II, F.A,** and Wang, B. "**Lactoferrin up regulates intestinal gene expression of brain-derived neurotrophic factors BDNF, UCHL1 and alkaline phosphatase activity to alleviate early weaning diarrhea in postnatal piglets**". *Jour. Nutr. Biochem.* **25**; 834-42. Doi.org/10.1016/j.jnutbio.2014.03.015.
- 2015 Fang, F., Xie., Wang, B. and **Troy II, F.A.** "**LC-MS/MS Glycomic Analyses of Free and Conjugated Forms of the Sialic Acids, Neu5Ac, Neu5Gc and KDN in Human Throat Cancers**" *Glycobiology* **10.1093/glycob/cwv051** (Published on-line August 2015).
- 2015 Xi Zhu, Zhiqiang Zheng, Nai Zhang, Yue Chen, Ni Liu, **Frederic A Troy II** and Bing Wang. "**Molecular Characterization and Expression Analyses of ST8Sia II and IV in Piglets During Postnatal Development: Lack of Correlation Between Transcription and Posttranslational Levels**". *Glycoconjugate Jour.* **32**; 715-728
- 2015 Zhou, Guo-Ping, Huang, Ri-Bo, and **Troy II, F. A.** "**3D Structural Conformation and Functional Domains of Polytransferase ST8Sia IV Required for Polysialylation of Neural Cell Adhesion Molecules**", *Protein & Peptide Letters*, **22**; 137-148.
- 2015 Wang, F., Xie, BY, Wang, B., and **Troy II, F.A.** "**LC-MS/MS Glycomic Analyses of Free and Conjugated Forms of the Sialic Acids, Neu5Ac, Neu5Gc and KDN in Human Throat Cancers**". *Glycobiology* **25**; 1362-1374.
- 2016 Ji, S.A., Wang, F. Yang, C.W. Zhang, P.W., Zhang, X.B., **Troy II, F.A.** and Wang, B. "**Developmental Changes in the Level of Free and Conjugated Sialic Acids, Neu5Ac, Neu5Gc and KDN in Different Organs of Pig: A LC-MS/MS Quantitative Analyses**". *Glycoconjugate J* (2016). Doi:10.1007/s10719-016-9724-9.
- 2017 Ri-Bo Huang, D. Cheng, Bo Lu, Si-Ming Liao, **Frederic A. Troy II** and Guo-Ping Zhou. "**The Intrinsic Relationship Between Structure and Function of the Sialyltransferase ST8Sia Family Members**". *Current Topics in Medicinal Chemistry* (2017), **17**, 2465-2475.
- 2017 Yue Chen, He Ren, Nai Zhang, **Frederic A. Troy II** and Bing Wang. "**Biochemical Characterization and Analyses of Polysialic Acid-Associated Carrier Proteins and**

Genes in Piglets During Neonatal Brain Development". ChemBioChem18;1270-1278 (10.1002/cbic.201700029 [June, 2017).

- 2018 Bo Lu, Xue-Hui Liu, Ri-Bo Huang, **Frederic A. Troy II** and Guo-Ping Zhou "**The Interaction between Polysialic Acid and Polysialyltransferase Domain (PSTD) in ST8Sia IV and the Cooperative Effect of the PSTD and the Polybasic Region**". (2018) Journal of Cheminformatics (2018)CHIN-D-18-00140
- . 2018 Li-Xin Peng, Xue-Hui Liu, Bo Lu, S-Ming Liao, Feng Zhou, Ji-Min Huang, Dong Chen, **Frederic A. Troy II**, Guo-Ping Zhou, "**The Inhibition of Polysialyltransferase ST8SialIV through Heparin binding to Polysialyltransferase Domain (PSTD)**" (2018) Medicinal Chemistry 15 DOI: 10.2174/157340641566618121810162134.
- . 2019 Changwei Yang, Panwang Zhang, Wang Fang, Yue Chen, Nai Zhang ,Zhiliang Qiao, **Frederic A. Troy II**, Bing Wang. "**Molecular Mechanisms Underlying How Sialyllactose Intervention Promotes Intestinal Maturity by Up-regulating GDNF Through a CREB-dependent Pathway in Neonatal Piglets (2019) Jour. Molecular Neurobiolog** ISSN 0893-7648 DOI: 10.1007/s12035-019-1628-9 (Pub. June 5, 2019)
- 2020 Si-Ming Liao,Bo Lu, Xue-Hui Liu , Zhi-Long Lu, Shi-Jie Liang Dong Chen, **Frederic A. Troy II***, Ri-Bo Huang* and Guo-Ping Zhou* "**Molecular Interactions of the Polysialyltransferase Domain (PSTD) in ST8Sia IV with CMP-Sialic Acid and Polysialic Acid Required for Polysialylation of the Neural Cell Adhesion Molecule Proteins: An NMR Study**". Intl. Jour. Molec. Sci. (2020) 21, 1590doi:1,3390/ijms21051590 Pub..Feb. 26, 2020.(*Corresp. AU's).
- 2020 Yue Chen, Yujie Shi, Xi Zhu, Ni Liu, Hexia Gan, Changwei Yang, Kevin Wang, **Frederic A. Troy II** and Bing Wang. (2019). "**Functional Correlates and Impact of Dietary Lactoferrin Intervention and its Concentration-dependence on Neurodevelopment and Cognition in Neonatal Piglets: A Molecular Transcriptome Analysis**" (Prepared for submission, Jour. Nut. Biochem. ???)

Books:

"Polysialic Acid: From Microbes to Man" (1993) Jurgen Roth, Urs Rutishauser and **Frederic A. Troy II** (Editors). Birkhauser Verlag, Basel, Switzerland. ISBN 3-7643-2803-7; ISBN 0-8176-2803-7.

"Sialobiology and Other Novel Forms of Glycosylation" (1999) Yasuo Inoue, Yuan C. Lee and **Frederic A. Troy II** (Editors). Gakushin Publishing Company, Osaka, Japan. ISBN 4-907773-00-5.

=====

2-29-20 UC Davis Emeriti Interview: by Dr. Joe Tupin (Aug. 2019)

https://video.ucdavis.edu/media/Frederic+Troy/0_zklbkw2w