

## Curriculum Vitae (academic, short version)

Carolyn A. Converse  
Glasgow, Scotland

b. USA, 1942

### Degrees:

Sc.B. , Brown University, Providence, R.I., 1964  
(*cum laude*, with High Honors in Biology)  
Ph.D. in Biophysics, Harvard University, Cambridge, MA, 1970.

### Posts held:

Postdoctoral Fellow, Dyson Perrins Laboratory (Organic Chemistry), Oxford University, 1970-72 (Arthritis Foundation Fellow).

Postdoctoral Fellow, Dept. Of Pathology, Yale University, 1973-75. Research Associate 1975 (Postdoctoral Fellow of the National Eye Institute).

Postdoctoral Fellow, Dept. of Chemistry, Glasgow University, 1976-79. Grant-holder of Scottish Hospital Endowments Research Trust grant (with Prof. W.S. Foulds, Tennent Institute of Ophthalmology) and MRC grant (with Dr. A. Cooper).

Lecturer, Dept. of Pharmaceutical Chemistry (latterly Pharmacy), University of Strathclyde, 1979-87.

Senior Lecturer, Dept. of Pharmacy (later renamed Pharmaceutical Sciences, then Strathclyde Institute of Pharmacy and Biomedical Sciences), University of Strathclyde, 1987-2007. Retired 2007.

Honorary Lecturer, Strathclyde Institute of Pharmacy and Biomedical Sciences, University of Strathclyde, 1 October, 2007- 30 September, 2009.

### Survey of research, I. STATEMENT OF PROGRAMME OF RESEARCH

The primary aim of my research has been to use the tools of biochemistry to study the visual system and defects in the visual process. This has led to a focus on one family of diseases, retinitis pigmentosa (RP), which is characterised by a degeneration in rod photoreceptor cells, where the first steps in the visual process take place.

### List of publications:

#### (a) books:

Converse, C.A., and Skinner, E.R., editors, Lipoprotein Analysis: A Practical Approach, Oxford, IRL Press at Oxford University Press, 1992.

#### (b) papers published in assessed journals: (a list of other publications is available on request)

Converse, C.A., and Richards, F.F. "A two-stage photosensitive label for antibody combining sites". Biochemistry **8**: 4431-4436, 1969.

Yoshioka, M., Lifter, J., Hew, C-L., Converse, C.A., Armstrong, M.Y.K., Konigsberg, W.H. and Richards, F.F. "Studies on the combining site of protein 460, a mouse gamma-A immunoglobulin which binds several haptens. Binding and reactivity of two types of photoaffinity labelling reagents". Biochemistry **12**: 4679-84, 1973.

Papermaster, D..S., Converse, C.A. and Siu, J. "Membrane biosynthesis in the frog retina: opsin transport in the photoreceptor cell". Biochemistry **14**: 1343-52, 1975.

- Converse, C.A. and Papermaster, D.S. "Membrane protein analysis by two dimensional immunoelectrophoresis". Science **189**: 469-472, 1975.
- Cooper, A. and Converse, C.A. "Energetics of primary processes in visual excitation. Photocalorimetry of rhodopsin in rod outer segment membranes". Biochemistry **15**: 2970-78, 1976.
- Papermaster, D.S., Converse, C.A. and Zorn, M. "Biosynthetic and immunochemical characterization of a large protein in frog and cattle rod outer segment membranes". Exp. Eye Res. **23**: 105-115, 1976
- Converse, C.A., "The large intrinsic membrane protein in rod outer segment. In vitro synthesis in cattle , and comparison in humans and rabbits". Exp. Eye Res. **29**: 409-416, 1979.
- Converse, C.A., Cooper, A. and Nutley, M.A. "A radial diffusion assay for serum lipase". Biochem Soc. Transact. **9**: 320-321, 1981.
- Al-Mahdawi, S.A.H., Converse, C.A. and Cooper, A. "Partial proteolysis of cattle and frog rhodopsins". Biochem Soc. Transact. **9**: 319-320, 1981.
- Converse, C.A., and Nutley, Margaret A., "Rocket-gel radioimmunoassay of antibodies to membrane proteins: a test for possible auto-immunity in retinitis pigmentosa. Biochem Soc. Transact. **10**: 458-459, 1982.
- Converse, C.A., Hammer, H.M., Packard, C.J. and Shepherd, J., "Plasma lipid abnormalities in retinitis pigmentosa and related conditions" Trans. Ophthalmol Soc. U.K. **105**: 508-512, 1983.
- Keegan, W.A., McKechnie, N.M. and Converse, C.A. "[<sup>3</sup>H]-galactose labelling of bovine rods and cones". Biochem Soc. Transact. **12**: 818-9, 1984.
- Keegan, W.A., McKechnie, N.M., Converse, C.A., and Foulds, W.S., "D-[<sup>3</sup>H]-galactose incorporation in the bovine retina: specific uptake and transport of the radiolable in cones". Exp. Eye Res. **40**: 619-628, 1985.
- Shallal, A. and Converse, C.A., "D-[<sup>3</sup>H]-Galactose incorporation in the bovine retina". Biochem. Soc. Transact. **14**: 612-613, 1986.
- McKechnie, N.M., Keegan, W.A., Converse, C.A. and Foulds, W.S. "Short-term organ culture of the retinal pigment epithelium in microtitration plates: Ultrastructural studies" Graefe's Arch. Clin. Exp. Ophthalmol., **224**: 401-406, 1986.
- Converse, C.A., McLachlan, T., Bow, A.C., Alvarez, E., Huq, L., Packard, C.J. and Shepherd, J., "Plasma lipids in retinitis pigmentosa" Biochem. Soc. Transact., **15**: 490-491, 1987.
- Shallal, A., Al-Mahdawi, S., Converse, C.A., Packard, C.J. and Shepherd, J. "Cross-reactivity between anti-apolipoprotein E antisera and retinal interphotoreceptor retinoid-binding protein" Biochem. Soc. Transact. **16**: 318-319, 1988.
- Gregory, Y., Converse CA and Foulds, W.S., "The effect of glycosaminoglycans on rod outer segment phagocytosis by retinal pigment epithelium explants" Biochem. Soc. Transact. **16**: 319-320, 1988.
- Shallal, A.M., Al-Mahdawi, S.A.H., Kolodziej, M.P. and Converse, C.A. "A highly sensitive ELISA using purified opsin, for studying autoimmunity to opsin in retinal diseases" J. Clin. Lab. Immunol., **27**: 45-50, 1988.
- Shallal, A., McKechnie, N.M., Converse, C.A., and Foulds, W.W. "D- [<sup>3</sup>H] - galactose incorporation into glycogen in retinal cone cells" Eye. Eye Res. **50**: 281-288, 1990.
- Al-Mahdawi, S., McGettrick, P.M., Lee, W.R., Graham, D.I., Shallal, A., Converse, C.A. "Experimental autoimmune uveoretinitis and pinealitis induced by interphotoreceptor retinoid binding protein and S-antigen: induction of intraretinal and subretinal neovascularisation". J. Clin. Lab. Immunol. **32**: 21-28, 1990.

Gregory, C.Y., Converse, C.A., and Foulds, W.S. "Effect of glycoconjugates on rod outer segment phagocytosis by retinal pigment epithelium explants in vitro assessed by a specific double radioimmunoassay procedure" Current Eye Res. **9**: 65-77, 1990.

McLachlan, T., McColl, A.J., Collins, M.F., Converse, C.A., Packard, C.J. and Shepherd, J. "A longitudinal study of plasma n-3 fatty acid levels in a family with x-linked retinitis pigmentosa". Bioch. Soc. Transact. **18**: 905-6, 1990.

McColl, A.J., Converse, C.A., Curtis, R., and Willmott, N.J. "Polyunsaturated fatty acid metabolism in miniature poodles with an inherited retinal degeneration" Bioch. Soc. Transact. **18**: 906-7, 1990.

Gregory, C.Y., Converse, C.A., and Foulds, W.S. "A specific radioimmunoassay to investigate outer rod segment phagocytosis by retinal pigment epithelium in vitro" Ophthalmic Res., **23**: 171-176, 1991.

Talmud, P.J., Converse, C.A., Krul, E., Huq, L., McIlwaine, G.G., Series, J.J., Boyd, P., Schonfeld, G., Dunning, A. and Humphries, S. "A novel truncated apolipoprotein B (apo B55) in a patient with familial hypobetalipoproteinemia and atypical retinitis pigmentosa" Clinical Genetics **42**: 62-70, 1992.

Bell, C., Converse, C.A., Collins, M.F., Esakowitz, L., and Haites, N.E. "Autosomal dominant retinitis pigmentosa (ADRP): A rhodopsin mutation in a Scottish family". J.Med. Genetics **29**: 667-668, 1992.

Huq, L., McLachlan, T., Hammer, H.M., Bedford, D., Packard, C.J., Shepherd, J. and Converse, C.A.. "An increased incidence of apolipoprotein (apo) E2/E2 and E4/E4 in retinitis pigmentosa": Lipids **28**: 995-998, 1993.

Brosnahan, D.M., Kennedy, S.M., Converse, C.A., Lee, W.R. and Hammer, H.M. "Pathology of hereditary retinal degeneration associated with hypobetalipoproteinemia". Ophthalmology **101**: 38-45, 1994.

Bell, C., Converse, C.A., Hammer, H.M., Osborne, A and Haites, N.E. "Rhodopsin mutations in a Scottish retinitis pigmentosa population, including a novel splice site mutation in intron four", Br. J. Ophthalmol. **78**: 933-938, 1994.

Chen, G., Wang, S.H. and Converse, C.A., "Glutathione increases interleukin-2 production in human lymphocytes", Int.J.Immunopharm. **16**: 755-760, 1994.

Mohamed, Z., Bell, C., Hammer, H.M., Converse, C.A., Esakowitz, L. and Haites, N.E. "Linkage of a medium sized Scottish autosomal dominant retinitis pigmentosa family to chromosome 7q", J. Med. Genet. **33**: 714-715, 1996.

Thomson, J.L., Brzeski, H., Dunbar, B., Forrester, J.V., Fothergill, J.E. and Converse, C.A. "A fragment of the cDNA for bovine rim protein derived by RT-PCR of bovine retinal mRNA". Accession Number U78767. GenBank, 18 November 1996.

Thomson, J.L., Brzeski, H., Dunbar, B., Forrester, J.V., Fothergill, J.E. and Converse, C.A. "Photoreceptor rim protein: partial sequences of cDNA show a high degree of similarity to ABC transporters". Curr. Eye Res. **16**: 741-745, 1997.

Whitehead, J.L., Bell, C., Converse, C.A., Hammer, H.M. and Haites, N.E. "Rhodopsin splice site sequence changes in retinitis pigmentosa and their effect at the mRNA level", Human Mutation., **S1**: S295-297, 1998.

Fedorovich, IB, Converse, CA and Ostrovsky, MA "Interphotoreceptor retinoid-binding protein (IRBP): photosensitized light-induced damage and binding properties". Biochem. Soc. Transact. **27**: A130, 1999.

Fedorovich, IB, Semenova, EM, Grant, K, Converse, CA and Ostrovsky, MA "Photosensitized light-induced damage of IRBP (interphotoreceptor retinoid-binding protein): effects on binding properties", Curr. Eye Res. **21**: 975-980. 2000.

Semenova, EM, Cooper, A, Wilson, CG and Converse, CA, "Stabilization of all-*trans*-retinol by cyclodextrins: a comparative study using HPLC and fluorescence spectroscopy" J. Inclusion Phenom. Macrocyclic Chem. **44**: 155-158, 2002.

Semenova, EM and Converse, CA, "Comparison between oleic acid and docosahexaenoic acid binding to interphotoreceptor retinoid-binding protein" Vision Res. 43: 3063-3067, 2003.

Kan, PL, Gray, AI, Tetley, L, Converse, CA, Schätzlein, AG and Uchehgbu, IF, "Tumour gene expression from C12 spermine amphiphile gene delivery systems" J. Drug Targeting 13: 345-357, 2005.

Gibriel, AAY, Tate, RJ, Yu, Y, Rawson-Lax, E, Hammer, HM, Tettey, JNA, Pyne, NJ and Converse, CA, "The p.Arg86Gln change in GARP2 (glutamic acid-rich protein-2) is a common West African-related polymorphism" Gene 515: 155-158, 2013.

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