

## **Supplementary Material**

### **George Ernest Rogers 1927–2021**

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*On retirement at the mandatory age of 65 George Rogers was made Emeritus Professor by the University of Adelaide, and he was able to continue his research interests as a visiting fellow in the Faculties of Science, and Agricultural Science with a change of direction to research sheep transgenesis in order to make improvements in wool to benefit producers. Although not in paid employment he also continued his academic and bench research on the molecular structure of human hair, in a laboratory in the School of Molecular and Biomedical Science at the University of Adelaide well into his late eighties.*

### **Honours and Awards**

Fellow of the Australian Academy of Science (1978)

Visiting Fellow, Clare Hall, Cambridge, UK (1970)

D.Sc. Adelaide University (1976)

Lemberg Medal of the Australian Biochemical Society (1976)

Visiting Fellow, University of Grenoble, France (1977)

Eleanor Roosevelt Fellow, Cancer Research Institute, NIH, Bethesda, USA (1985)

Centenary Medal of the Commonwealth Government 2001

Visiting Scholar Medicine-VMI, University of Pittsburgh, 2012

Order of Australia (AO), 2013.

Invited speaker at national and international scientific meetings since 1959:

- Inaugural President of the Australian Hair and Wool Research Society 1994
- John Ebling Memorial Lecturer of the European Hair Research Society, Paris, 1996
- International Symposium on Keratinisation and its Disorders, Cologne, 1998
- Chair, 3<sup>rd</sup> Intercontinental Meeting of Hair Research Societies Tokyo, June 2001
- Chair, 12<sup>th</sup> Annual Meeting of the European Hair Research Society, London, June/July 2006
- 7<sup>th</sup> World Congress for Hair Research, Edinburgh, Scotland 4<sup>th</sup>-6<sup>th</sup> May 2013

### **Professional Appointments**

1951-1962	Research Officer, Senior Research Officer, CSIRO, Division of Protein Chemistry
1963-1977	Reader in Biochemistry, University of Adelaide
1978-1992	Professor of Biochemistry (Personal Chair), University of Adelaide
1980-1987	Deputy Head, Department of Biochemistry, University of Adelaide
1988-1992	Head, Department of Biochemistry, University of Adelaide
1993-2021	Emeritus Professor and Honorary Visiting Research Fellow of the Faculty of Science and of the Faculty of Agricultural and Natural Resource Sciences, University of Adelaide
1995-2002	Program Manager, Program 5, CRC for Premium Quality Wool
1996-1997	Inaugural President of the Australian Hair and Wool Research Society

## Bibliography

Wynn, V. and Rogers, G.E. (1950) Observations on the behaviour of protein in paper partition chromatography, *Australian Journal of Science and Research*, **B 3**, 124-131.

Rogers, G.E. (1951) Enzymatic inactivation of secretin, *Nature*, **167**, 771.

Rogers, G.E. (1953) The localisation of dehydrogenase activity and sulphhydryl groups in wool and hair follicles by the use of tetrazolium salts, *Quarterly Journal of Microscopical Science*, **94**, 253-268.

Fraser, R.D.B. and Rogers, G.E. (1953) Microscopic observations of the alkaline-thioglycollate extraction of wool, *Biochimica et Biophysica Acta*, **12**, 484-485.

Fraser, R.D.B. and Rogers, G.E. (1954) The origin of segmentation in wool cortex, *Biochimica et Biophysica Acta*, **13**, 295-297.

Fraser, R.D.B., Lindley, H. and Rogers, G.E. (1954) Chemical heterogeneity and cortical sementation in wool, *Biochimica et Biophysica Acta*, **13**, 295-297.

Fraser, R.D.B. and Rogers, G.E. (1954) Shadow casting in visible microscopy, *Biochimica et Biophysica Acta*, **15**, 146-148.

Fraser, R.D.B. and Rogers, G.E. (1955a) The bromine Allworden reaction, *Biochimica et Biophysica Acta*, **16**, 307-316.

Fraser, R.D.B. and Rogers, G.E. (1955b) The surface structure of wool and its components revealed by metal shadowing, *Australian Journal of Biological Sciences*, **8**, 129-135.

Fraser, R.D.B. and Rogers, G.E. (1955c) The bilateral structure of wool cortex and its relation to crimp, *Australian Journal of Biological Sciences*, **8**, 288-299.

Fraser, R.D.B. and Rogers, G.E. (1955d) The structure of resistant membranes isolated from oxidized wool, *Text Research Journal*, **XXV**, 235-241.

Fraser, R.D.B. and Rogers, G.E. (1956a) The bilateral structure of wool cortex, *Proceedings of the International Wool Textile Research Conference, Australia, 1955*, F, 151-155.

Glauert, A.M., Glauert, R.H. and Rogers, G.E. (1956) A new embedding medium for electron microscopy, *Nature*, **178**, 803.

Rogers, G.E. (1956) Electron microscopy of mast cells in the skin of young mice, *Experimental Cell Research*, **11**, 393-402.

Millen, J.W. and Rogers, G.E. (1956) An electron microscopic study of the chorioid plexus in the rabbit, *Journal of Biophysical and Biochemical Cytology*, **2**, 407-416.

Lacy, D. and Rogers, G.E. (1956) Recent observations by light and electron microscopy on the cytoplasmic inclusions of neurones of *Patella vulgate*, *Journal of the Royal Microscopical Society*, **75**, 172-175.

Fraser, R.D.B. and Rogers, G.E. (1956b) New aspects of the fine histology of wool, *Proceedings of the International Wool Textile Research Conference, Australia, 1955*, F, 106-111.

Legge, J.W., Morieson, A.S., Marginson, M.A. and Rogers, G.E. (1957) The chromatography and counter-current distribution of secretin, *Australian Journal of Experimental Biology and Medical Science*, **35**, 569-582.

Rogers, G.E. (1957a) Electron microscope observations on the structure of sebaceous glands, *Experimental Cell Research*, **13**, 517-520.

Rogers, G.E. (1957b) Electron microscope observations on the glassy layer of the hair follicle, *Experimental Cell Research*, **13**, 521-528.

Rogers, G.E. (1958a) Some aspects of the structure of the inner root sheath of hair follicles revealed by light and electron microscopy, *Experimental Cell Research*, **14**, 378-387.

Rogers, G.E.R. (1958b) Some observations on the proteins of the inner root sheath cells of hair follicles, *Biochimica et Biophysica Acta*, **29** (1), 33-43.

Simmonds, D.H. and Rogers, G.E. (1958) Content of citrulline and other amino acids in a protein of hair follicles, *Nature*, **182**, 186-187.

Fraser, R.D.B., MacRae, T.P. and Rogers, G.E. (1959) Structure of  $\alpha$ -keratin, *Nature*, **183**, 592-594.

Rogers, G.E. (1959a) Electron microscopy of wool, *Journal of Ultrastructure Research*, **2**, 309-330.

Rogers, G.E. (1959b) Electron microscope studies of hair and wool, *Annals of the New York Academy of Sciences*, **83**, Art. 3, 378-399.

Rogers, G.E. (1959c) New findings on the enzymes and proteins of hair follicles. *Annals of the New York Academy of Sciences*, **83**, Art 3, 408-428.

Rogers, G.E. and Springell P.G. (1959) Amino acid metabolism in wool roots, *Nature*, **183**, 993.

Fraser, R.D.B., MacRae, R.P. and Rogers, G.E. (1960) Recent observations on the structure of  $\alpha$ -keratin, *The Journal of The Textile Institute*, **51**, T497-T505.

Filshie, B.K. and Rogers, G.E. (1961) The fine structure of a-keratin, *Journal of Molecular Biology*, **3**, 784-786.

Fraser, R.D.B., MacRae, T.P. and Rogers, G.E. (1962) Molecular organization in a-keratin, *Nature*, **193**, 1052-1055.

Rogers, G.E. (1962a) 'Structure of the wool fibre', in *The simple fleece: Studies in the Australian Wool Industry*, ed. Alan Barnard, Melbourne University Press, 1962, pp. 27-35.

Rogers, G.E. (1962b) The occurrence of citrulline in proteins, *Nature*, **194**, 1149-1151.

Filshie, B.K. and Rogers, G.E. (1962a) An electron microscope study of the fine structure of feather keratin, *Journal of Cell Biology*, **13**, 1-12.

Filshie, B.K. and Rogers, G.E. (1962b) Electron staining and fine structure of keratins, *Proceedings of the Fifth International Congress of Electron Microscopy*, Philadelphia, 1962, **2**, 0-2 Academic Press, New York.

Filshie, B.K. and Rogers, G.E. (1963) 'Some aspects of the ultrastructure of a-keratin, bacterial flagella and feather keratin', in *Ultrastructure of Protein Fibres*, ed. R. Borasky (1963), pp. 123-138, Academic Press, New York.

Fraser, R.D.B., MacRae, R.P., Filshie, B.K. and Rogers, G.E. (1963) Lipids in keratinised tissues, *Journal of Molecular Biology*, **7**, pp. 90-91.

Bradbury, J.H., Filshie, B.K. and Rogers, G.E. (1963a) Observations by light and electron microscopy on wool cuticle fractions obtained by ultrasonics, *Textile Research Journal*, **33**, 215-257.

Bradbury, J.H., Filshie, B.K. and Rogers, G.E. (1963b) The theory of shrinkproofing of wool Part V. Electron and light microscopy of wool fibres after chemical treatments, *Textile Research Journal*, **33**, 617-630.

Downes, A.M., Sharry, L.H. and Rogers, G.E. (1963) Separate synthesis of fibrillar and matrix proteins in the formation of keratin, *Nature*, **199**, 1059-1061.

Bradbury, J.H. and Rogers, G.E. (1963) The theory of shrinkproofing of wool Part IV. Electron and light microscopy of polyglycine on the fibres, *Textile Research Journal*, **33**, 452-458.

Rogers, G.E. (1963) The localization and significance of arginine and citrulline in proteins of the hair follicle, *Journal of Histochemistry and Cytochemistry*, **11**, 700-705.

Mercer, E.H., Munger, B.L., Roth, S.I. and Rogers, G.E. (1964) A suggested nomenclature for fine structural components of keratin and keratin-like products of cells, *Nature*, **201**, 367-368.

Rogers, G.E. (1964a) Isolation and properties of inner sheath cells of hair follicles, *Experimental Cell Research*, **33**, 264-276.

Rogers, G.E. (1964b) Structural and biochemical features of the hair follicle, in *The epidermis*, ed. W. Montagna, 179-236, Academic Press, New York.

Filshie, B.K., Fraser, R.D.B., MacRae, T.P. and Rogers, G.E. (1964) X-ray and electron microscope observations on soluble feather keratin derivatives, Addendum to paper by E.F. Woods. Soluble feather keratin derivatives, *Biochemical Journal*, **92**, 19.

Leach, S.J., Filshie, B.K. and Rogers, G.E. (1964) The selective extraction of wool keratin with dilute acid Pt.1. Chemical and morphological changes, *Archives of Biochemistry and Biophysics*, **105**, 270-287.

Allen, A.K., Lindley, H. and Rogers, G.E. (1964) Metabolic relationships of protein-bound arginine and citrulline in hair follicles, *VI<sup>th</sup> International Congress of Biochemistry New York*, August 1964, Abstract Volume V-B-20.

Bird, A.F. and Rogers, G.E. (1965a) Ultrastructure of the cuticle and its formation in *Medoidogyne Javanica*, *Nematologica*, **11**, 224-230.

Bird, A.F. and Rogers, G.E. (1965b) Ultrastructure and histochemical studies of the cells producing the gelatinous matrix in *Meloidogyne*, *Nematologica*, **11**, 231-238.

Clarke, R.M. and Rogers, G.E. (1965a) 'An approach to the investigation of protein biosynthesis in hair follicles', in *Biology of the Skin and Hair Growth*, eds. A.F. Lyne and B.F.Short, Angus and Robertson, 329-343.

Clarke, R.M. and Rogers, G.E. (1965b) Keratin protofilaments and ribosomes from hair follicles, *Nature*, **205**, 77-78.

Rogers, G.E. (1966) Structure and biosynthesis in the hair follicle and related structures in Symposium on Electron Microscope Studies on the Biosynthesis and Assembly of Fibrous Proteins, *Proceedings of the Royal Microscope Society* (1966), **1**, 67.

Dobb, M.G. and Rogers, G.E. (1968) 'Electron microscopy of fibrous keratins', in *Symposium on Fibrous Proteins*, ed. W.G. Crewther, Butterworths, Melbourne, pp. 267-278.

Steinert, P.M., Harding, H.W.J. and Rogers, G.E. (1969) The characterisation of protein-bound citrulline, *Biochimica et Biophysica Acta*, **175**, 1-9.

Rogers, G.E. (1970) 'The structure and biochemistry of keratin', in *The Biological Basis of Medicine*, ed. E.E. Bittar, Academic Press, Ch. 2, **6**, pp. 21-57.

- Kemp, D.J. and Rogers, G.E. (1970) The Immunological and immunofluorescent studies on keratin of the hair follicle, *Journal of Cell Science*, **7**, 273-283.
- Clarke, R.M. and Rogers, G.E. (1970a) Protein synthesis in the hair follicle I. Extraction and partial characterisation of follicle proteins, *Journal of Investigative Dermatology*, **55**, 419-424.
- Clarke, R.M. and Rogers, G.E. (1970b) Protein synthesis in the hair follicle II. Polysomes and amino acid incorporation, *Journal of Investigative Dermatology*, **55**, 425-432.
- Harding, H.W.J. and Rogers, G.E. (1971)  $\epsilon$ -( $\gamma$ -glutamyl)lysine in citrulline-containing protein fractions from hair, *Biochemistry*, **10**, 624-630.
- Steinert, P.M., Dyer, P.Y. and Rogers, G.E. (1971) The isolation of non-keratin protein filaments from inner root sheath cells of the hair follicle, *Journal of Investigative Dermatology*, **56**, 49-54.
- Steinert, P.M. and Rogers, G.E. (1971a) Protein biosynthesis in cell-free systems prepared from hair follicle tissue of guinea pigs, *Biochimica et Biophysica Acta*, **232**, 556-572.
- Steinert, P.M. and Rogers, G.E. (1971b) The synthesis of hair keratin proteins *in vitro*, *Biochimica et Biophysica Acta*, **238**, 150-155.
- Fraser, R.D.B. and MacRae, T.P. and Rogers, G.E. (1972) *Keratins: Their Composition, Structure and Biosynthesis*, ed. C. Thomas, Springfield, III.
- Harding, H.W.J. and Rogers, G.E. (1972a) The occurrence of the  $\epsilon$ -( $\gamma$ -glutamyl) lysine cross-link in the medulla of hair and quill, *Biochimica et Biophysica Acta*, **257**, 37-39.
- Harding, H.W.J. and Rogers, G.E. (1972b) Formation of the  $\epsilon$ -( $\gamma$ -glutamyl) lysine cross-link in hair proteins. Investigation of transamidase in hair follicles, *Biochemistry*, **11**, 2858-2863.
- Kemp, D.J. and Rogers, G.E. (1972) Differentiation of avian keratinocytes. Characterisation and relationship of the keratin proteins of adult and embryonic feathers and scales, *Biochemistry*, **11**, 969-975.
- Steinert, P.M. and Rogers, G.E. (1973a) In vitro studies on the synthesis of hair proteins of the guinea pig, *Biochimica et Biophysica Acta*, **312**, 403-412.
- Steinert, P.M. and Rogers, G.E. (1973b) Characterisation of the proteins of guinea pig hair and hair follicle tissue, *Biochemical Journal*, **135**, 759-771.

Partington, G.A., Kemp, D.J. and Rogers, G.E. (1973) The isolation of feather keratin mRNA and its translation in a rabbit reticulocyte cell-free system, *Nature New Biology*, **246**, 33-36.

Kemp, D.J., Dyer, P.Y. and Rogers, G.E. (1974) Keratin synthesis during development of the embryonic chick feather, *Journal of Cell Biology*, **62**, 114-131.

Kemp, D.J., Partington, G.A. and Rogers, G.E. (1974) Isolation and molecular weight of pure feather keratin mRNA, *Biochimica et Biophysica Acta Communications*, **60**, 1006-1014.

Kemp, D.J., Schwinghamer, M.W. and Rogers, G.E. (1974) Translation of pure feather keratin mRNA in a wheat embryo cell-free system, *Molecular Biology Reports*, **1**, 441-446.

Kemp, D.J., Walker, I.D., Partington, G.A. and Rogers, G.E. (1975) 'Properties of the mRNA for feather keratin: mRNA transcribed from a family of repeated genes', in *The Eukaryote Chromosome*, eds. W.J. Peacock and R.D. Brock, Australian National University Press, Canberra, 205-216.

Harding, H.W.J. and Rogers, G.E. (1975) The isolation of a unique protein fraction from hair follicle tissue and its significance in the structure of hair, *Proceedings Fifth International Wool Textile Research Conference*, Aachen.

Harding, H.W.J. and Rogers, G.E. (1976a) 'Molecular mechanisms in the formation of hair, International Symposium on biology and Disease of the Hair', in *Biology and Disease of the Hair*, eds. T. Kobori and W. Montagna, University of Tokyo Press, Tokyo.

Harding, H.W.J. and Rogers, G.E. (1976b) Isolation of peptides containing citrulline and the cross-link, e-(g-glutamyl) lysine from hair medulla protein, *Biochimica et Biophysica Acta*, **427**, 315-324.

Powell, B.C., Kemp, D.J., Partington, G.A., Gibbs, P.E.M. and Rogers, G.E. (1976) Control of feather keratin synthesis by the availability of keratin mRNA, *Biochemistry and Biophysics Research Communications*, **68**, 1263-1271.

Lock, R.A., Harding, H.W.J. and Rogers, G.E. (1976) Arginine transferase activity in homogenates from guinea pig hair follicle, *Journal of Investigative Dermatology*, **67**, 582.

Kemp, D.J., Dyer, P.Y. and Rogers, G.E. (1976) 'The onset of keratin synthesis in the embryonic chick feather', in *Proceedings of the 16th International Ornithological Congress*, Published by the Australian Academy of Science.

Walker, I.D. and Rogers, G.E. (1976a) Differentiation in avian keratinocytes. The properties of the proteins of the chick down feather, *European Journal of Biochemistry*, **69**, 329.



Walker, I.D. and Rogers, G.E. (1976b) The structural basis for the heterogeneity of chick down feather keratin. The partial amino acid sequence of down feather keratin, *European Journal of Biochemistry*, **69**, 341.

Rogers, G.E. (1976) Cytodifferentiation in keratinizing tissues. The developing embryonic feather as a system for studying the expression and structure of genes in higher organisms, *Proceedings of the Australian Biochemistry Society*, **9**, 1.

Taylor, L.D. and Rogers, G.E. (1977) 'The enzymic derivation of citrulline residues from arginine residues in situ during the biosynthesis of hair protein that are cross-linked by isopeptide bonds', in *Protein Cross-Linking*, Part A, ed. M. Friedman, Plenum Publishing Corporation, New York.

Harding, H.W.J. Llewellyn-Smith, I.J. and Rogers, G.E. (1977) The origin of citrulline-containing proteins in the hair follicle and the chemical nature of trichohyalin; an intracellular precursor, *Biochimica et Biophysica Acta*, **495**, 159.

Rogers, G.E. (1978) Keratins viewed at the nucleic acid level, *Trends in Biochemical Sciences*, **3**, 131-133.

Dhouailly, D. Sengel, P. and Rogers, G.E. (1978) The specification of feather and scale protein synthesis in epidermal-dermal recombination, *Journal of Developmental Biology*, **65**, 58-68.

Lockett, T.J., Kemp, D.J. and Rogers, G.E. (1979) Organisation of the unique and repetitive sequences in feather keratin mRNA, *Biochemistry*, **18**, 5654.

Morris, C.P. and Rogers, G.E. (1979) The terminal structure of feather keratin mRNA, *Molecular Biology Reports*, **5**, 145.

Powell, B.C. and Rogers, G.E. (1979) Isolation of messenger RNA coding for the "fast" protein of embryonic chick feathers, *Nucleic Acids Research*, **7**, 2165-2176.

Rogers, G.E. (1979) 'The cytological and biochemical basis of pigmentation in hair and wool', in *Breeding Coloured Sheep and Using Coloured Wool*, South Australian Coloured Sheep Owners Society Incorporated, Peacock Publication, South Australia, pp. 3-9.

Rogers, G.E., Frenkel, M.J. and Lock, R.A. (1981) 'Ribonucleic acids coding for the keratin complex of hair', in *Hair Research*, eds. C.E. Organos, W. Montagna and G. Stuttgen, Springer-Verlag, pp. 84-93.

Molloy, P.L., Powell, B.C., Gregg, K., Barone, E.D. and Rogers, G.E. (1982) Organisation of feather keratin genes in the chick genome, *Nucleic Acids Research*, **10**, 6007-6021.

Rogers, G.E. (1982) 'Keratin genes', in *Eukaryotic Genes: Their Structure, Activity and Regulation*, eds. N. Maclean, S.P. Gregory and R.A. Flavell, Butterworth, London, pp. 415-430.

Ward, K.A., Sleight, M.J., Powell, B.C. and Rogers, G.E. (1982) The isolation and analysis of the major wool keratin gene families, *Proceedings of the 2nd World Congress of Genetics and Applied Livestock Production*, **6**, 146-156.

Rogers, G.E. (1983) 'The occurrence of citrulline in structural proteins of the hair follicle', in *Biochemistry and Physiology of the Skin*, ed. L. Goldsmith, Oxford University Press, pp. 511-521.

Powell, B.C., Ward, K., Sleight, M. and Rogers G.E. (1983) Mammalian keratin gene families: Organization of genes coding for the B2 high-sulphur proteins of sheep wool, *Nucleic Acids Research*, **11**, 5327-5366.

Rothnagel, J.A. and Rogers, G.E. (1983) A sensitive assay for the enzyme activity in hair follicles and epidermis that catalyses the peptidyl-arginine-citrulline post-translation modification, in *Normal and Abnormal Epidermal Keratinization*, ed. I. Bernstein and M. Seiji, University of Tokyo Press, pp. 171-184.

Rogers, G.E., Gregg, K., Wilton, S.D. and Molloy, P.L. (1983) 'Avian keratin genes: Organization and evolutionary inter-relationships', in *Manipulation and expression of genes in eukaryotes*, eds. P. Nagley, A.W. Linnane, W.J. Peacock and J.A. Pateman, Academic Press, Sydney, pp. 65-72.

Rothnagel, J.A. and Rogers, G.E. (1984a) Transglutaminase mediated cross-linking in mammalian epidermis, *Journal of Molecular and Cell Biochemistry*, **58**, 113-119.

Rothnagel, J.A. and Rogers, G.E. (1984b) 'Citrulline in proteins from the enzymatic deimination of arginine residues', in *Methods in Enzymology*, eds. F. Wold and K. Moldave, Academic Press, New York, **107**, 624-631.

Rogers, G.E. (1984) 'Studies on keratin multigene families', in *Molecular Variants of Proteins: Biosynthesis of Clinical Relevance*, eds. P.N. Campbell and C.F. Phelps, Biochemistry Society Symposium, **49**, 85-108.

Gregg, K., Wilton, S.D., Parry, D.A.D. and Rogers, G.E. (1984) A comparison of genomic coding sequences for feather and scale keratins: Structural and evolutionary implications. *EMBO Journal*, **3**, 175-178.

Forrest, J.W., Fleet, M.R. and Rogers, G.E. (1985) Characterization of melanocytes in wool bearing skin of merino sheep, *Australian Journal of Biological Sciences*, **38**, 245-257.

Rogers, G.E. (1985) Genes for hair and avian keratins. *Annals of the New York Academy of Sciences*, **455**, 403-25.

Kuczek, E. and Rogers, G.E. (1985) Sheep keratins: Characterization of cDNA clones for the glycine-tyrosine rich wool proteins using a synthetic probe, *European Journal of Biochemistry*, **146**, 89-93.

Wilton, S.D., Crocker, L.A. and Rogers, G.E. (1985) Isolation and characterization of keratin mRNA from the scale of epidermis of the embryonic chick, *Biochimica et Biophysica Acta*, **824**, 201-208.

Koltunow, A.M., Gregg, K. and Rogers, G.E. (1986) Intron sequences modulate feather keratin gene transcription in *Xenopus* oocytes, *Nucleic Acids Research*, **14**, 6375-6392.

Powell, B.C., Cam, G.R., Fietz, M.J. and Rogers, G.E. (1986) Clustered arrangement of keratin intermediate filament genes, *Proceedings of the National Academy of Sciences of the United States of America*, **83**, 5048-5052.

Rothnagel, J.A. and Rogers, G.E. (1986) Trichohyalin, an intermediate filament associated protein of the hair follicle, *Journal of Cell Biology*, **102**, 1419-1429.

Powell, B.C. and Rogers, G.E. (1986) 'Hair keratin: Composition, structure and biogenesis', ed. J. Bereiter-Hahn, A.G. Matoltsy and K. Sylvia Richards, in *Biology of the Integument, Volume 2 Vertebrates*, Springer-Verlag, Berlin, Chapter 34, pp. 695-721.

Gregg, K. and Rogers, G.E. (1986) 'Feather keratin: Composition, structure and biogenesis', in *Biology of the Integument, Volume 2 Vertebrates*, ed. J. Bereiter-Hahn, A.G. Matoltsy and K. Sylvia Richards, Springer-Verlag, Berlin, Chapter 33, pp. 666-694.

Rogers, G.E., Martinet, N., Steinert, P., Wynn, P., Roop, D., Kilkenny, A., Morgan, D. and Yuspa, S.H. (1987) Cultivation of murine hair follicles as organoids in collagen matrix, *Journal of Investigative Dermatology*, **89**, 369-379.

Kuczek, E.S. and Rogers, G.E. (1987) Sheep wool (glycine + tyrosine)-rich keratin genes. A family of low sequence homology, *European Journal of Biochemistry*, **166**, 79-85.

Rogers, G.E., Bawden, C.S., Cam, G.R., D'Andrea, R.J., Kuczek, E.S., Powell, B.C. and Sivaprasad, A.V. (1987) 'A review of the genes for wool keratin and for cysteine biosynthesis: Their significance for studies directed towards modified wool production', in *Merino Improvement Programs in Australia*, ed. B.J. McGuirk, Australian Wool Corporation, pp. 511-518.

Koltunow, A.M., Gregg, K. and Rogers, G.E. (1987) Promoter efficiency depends upon intragenic sequences, *Nucleic Acids Research*, **15**, 7795-7807.

Rogers, G.E., Kuczek, E.S., MacKinnon, P.J., Presland, R.B. and Fietz, M.J. (1987) 'Special biochemical features of the hair follicle', in *The Biology of Wool and Hair*, eds. G.E. Rogers, P.J. Reiss, K.A. Ward and R.C. Marshall, Chapman and Hall, London/New York, pp. 69-85.

Powell, B.C., Kuczek, E.S., Crocker, L., O'Donnell, M. and Rogers, G.E. (1987) 'Keratin gene expression in wool fibre development', in *The Biology of Wool and Hair*, eds. G.E. Rogers, P.J. Reiss, K.A. Ward and R.C. Marshall, Chapman and Hall, London/New York, pp. 325-335.

D'Andrea, R.J., Sivaprasad, A.V., Bawden, S., Kuczek, E.S., Whitbread, L.A. and Rogers, G.E. (1987) 'Isolation of microbial genes for cysteine synthesis and prospects for their use in increasing wool growth', in *The Biology of Wool and Hair*, eds. G.E. Rogers, P.J. Reiss, K.A. Ward and R.C. Marshall, Chapman and Hall, London/New York, pp. 447-463.

Rogers, G.E. (1988) Synthesis and cross-linking in the structure and growth of hair keratins, *Clinics in Dermatology*, **6**, 26-31.

Rogers, G.E., Martinet, N., Steinert, P.M., Wynn, P., Roop, D., Kilkenny, A., Morgan, D. and Yuspa, S.H. (1988) A procedure for the culture of hair follicles as functionally intact organoids, *Clinics in Dermatology*, **6**, 36-41.

Frenkel, M.J., Powell, B.C., Ward, K.A., Sleight, M.J. and Rogers, G.E. (1989) The keratin BIIIIB gene family: Isolation of cDNA clones and structure of a gene and a related pseudogene, *Genomics*, **4**, 182-191.

Rogers, G.E., Reiss, P.J., Ward, K.A. and Marshall, R.C. (1989) *The Biology of Wool and Hair*, Chapman and Hall, London/New York, pp. 1-499.

Rogers, G.E., Sivaprasad, A.V., D'Andrea, R.J., Bawden, C.S. and Kuczek, E.S. (1989) Towards a new sheep genotype with increased wool growth by transgenesis with microbial genes for cysteine synthesis, *Journal of Cellular Biochemistry*, **13B** (Suppl.), 183.

Presland, R.B., Gregg, K., Molloy, P.L., Morris, C.P., Crocker, L.A. and Rogers, G.E. (1989) Avian keratin genes I. A molecular analysis of the structure and expression of a group of feather keratin genes, *Journal of Molecular Biology*, **209**, 549-559.

Presland, R.B., Whitbread, L.A. and Rogers, G.E. (1989) Avian keratin genes II. Chromosomal arrangement and close linkage of three gene families, *Journal of Molecular Biology*, **209**, 561-576.

Powell, B.C. and Rogers, G.E. (1990a) 'Hard keratin IF and associated proteins', in *Intermediate Filaments*, eds. R.A. Goldman and P.M. Steinert, Pergamon Press, New York, U.S.A., 267-300.

Powell, B.C. and Rogers, G.E. (1990b) Cyclic hair-loss and regrowth in transgenic mice overexpressing an intermediate filament gene, *EMBO Journal*, **9**, 1485-1493.

Fietz, M.J., Presland, R.B. and Rogers, G.E. (1990) The cDNA-deduced amino acid sequence for trichohyalin, a differentiation marker in the hair follicle, contains a 23 amino acid repeat, *Journal of Cell Biology*, **110**, 427-436.

Rogers, G.E. (1990) Improvement of wool production through genetic engineering, *Trends in Biotechnology*, **8**, 6-11.

Walker, S.K., Heard, T.M., Verma, P.J., Rogers, G.E., Bawden, C.S., Sivaprasad, A.V., McLaughlin, K.J. and Seamark, R.F. (1990) In vitro assessment of the viability of sheep zygotes after pronuclear microinjection, *Reproduction Fertility and Development*, **2**, 633-640.

MacKinnon, P.J., Powell, B.C. and Rogers, G.E. (1990) Structure and expression of genes for a class of cysteine-rich proteins of the cuticle layers of differentiating wool and hair follicles, *Journal of Cell Biology*, **111**, 2587-2600.

Sivaprasad, A.V., Kuczek, E.S., Bawden, C.S. and Rogers, G.E. (1992) Coexpression of the cysE and cysM genes of *Salmonella typhimurium* in mammalian cells: a step towards establishing cysteine biosynthesis in sheep by transgenesis, *Transgenic Research*, **1**, 79-92.

MacKinnon, P.J., Rogers, G.E., Powell, B.C., Baker, E.G., MacKinnon, R.N., Hyland, V.J., Callen, D.F. and Sutherland, G.R. (1991) An ultra-high sulphur keratin gene of the human hair cuticle is located at 11q13 and cross hybridizes with sequences at 11p15, *Mammalian Genome*, **1**, 53-56

Rogers, G.E., Fietz, M.J. and Fratini, A. (1991) Trichohyalin and matrix proteins, *Annals of the New York Academy of Sciences*, **642**, 64-81.

Whitbread, L.A., Gregg, K. and Rogers, G.E. (1991) The structure and expression of a gene encoding chick claw keratin, *Gene*, **101**, 223-229.

Powell, B.C., Nesci, A. and Rogers, G.E. (1991) Regulation of keratin gene expression in hair follicle differentiation, *Annals of the New York Academy of Sciences*, **642**, 1-20.

Powell, B.C., Crocker, L. and Rogers, G.E. (1992) Hair follicle differentiation: Expression, structure and evolution of a major gene family, the intermediate filament type II keratin genes, *Development*, **114**, 417-433.

Correlle, A., Webb, G.C., Ford, J.H., Rogers, G.E. and Powell, B.C. (1992) Localization by *in-situ* hybridization of a type I keratin intermediate filament gene, K14, to band D of mouse chromosome, 11, *Cytogenetics and Cell Genetics*, **60**, 245-246.

Fietz, M.J., Rogers, G.E., Eyre, H.J., Baker, E., Callen, D.F. and Sutherland, G.R. (1992) Mapping of the trichohyalin gene: co-localisation with the profilaggrin, involucrin and loricrin genes, *Journal of Investigative Dermatology*, **99**, 542-544.

Fratini, A.F., Powell, B.C. and Rogers, G.E. (1993) Sequence, expression and evolutionary conservation of a gene encoding a glycine/tyrosine-rich keratin-associated protein of hairs, *Journal of Biological Chemistry*, **268**, 4511-4518.

Fietz, M.J., McLaughlan, C.J., Campbell, M.T. and Rogers, G.E. (1993) Analysis of the sheep trichohyalin gene: potential structural and calcium-binding roles of trichohyalin in the hair follicle, *Journal of Cell Biology*, **121**, 855-865.

Rogers, G.E. and Powell, B.C. (1993) Organization and expression of hair follicle genes, *Journal of Investigative Dermatology*, **101**, 50-55.

Powell, B.C. and Rogers, G.E. (1994a) 'Differentiation in hard keratin tissues: hair and related structures', in *Keratinocyte Handbook*, eds. I. Leigh, F. Watt and E.B. Lane, Cambridge University Press, pp. 401-436.

Powell, B. C., and Rogers, G. E. (1994b) 'Analysis of hair follicle proteins', in *Keratinocyte Methods*, eds. I. Leigh and F. Watt, Cambridge University Press, pp. 149-155.

Rogers, G.E., Powell, B.C. (1994) 'Hair follicle keratins', in *Handbook of Mouse Mutations with Skin and Hair Abnormalities: Animal Models and Biomedical Tools*, ed. J.P. Sundberg, CRC Press, Boca Raton, Ann Arbor, pp. 105-116.

Fratini, A., Powell, B. C., Hynd, P. I., Keough, R. A., and Rogers, G. E. (1994) Dietary cysteine regulates the levels of mRNAs encoding a family of cysteine-rich proteins of hair, *Journal of Investigative Dermatology*, **102**, 178-185.

Powell, B. C., Walker, S. K., Bawden, C. S., Sivaprasad, A. V., and Rogers, G. E. (1994) Transgenic sheep and wool growth: possibilities and current status, *Reproduction, Fertility and Development*, **6**, 615-623.

Keough, R., Powell, B. and Rogers, G. (1995) Targeted expression of SV40 T antigen in the hair follicle of transgenic mice produce an aberrant hair phenotype, *Journal of Cell Science*, **108**, 957-966.

Bawden, C. S., Sivaprasad, A. V., Verma, P. J., Walker, S. K., and Rogers, G. E. (1995) Expression of bacterial cysteine biosynthesis genes in transgenic mice and sheep: toward a new *in vivo* amino acid biosynthesis pathway and improved wool growth, *Transgenic Research*, **4**, 87-104.

Powell, B. C. and Rogers, G. E. (1997) 'The role of keratin proteins and their genes in the growth, structure and properties of hair', in *Formation and Structure of Human Hair*, eds. P. Jolles, H. Zahn and H. Hocker, Birkhauser, Basel, pp. 59-148.

Rogers, G., Winter, B., McLaughlan, C., Powell, B. and Nesci A. (1997) Peptidylarginine deiminase of the hair follicle: characterisation, localisation and function in keratinising tissues, *Journal of Investigative Dermatology*, **108**, 700-707.

Rogers, G., Dunn, S. and Powell, B. (1998) 'Late events and the regulation of keratinocyte differentiation in hair and feather follicles', in *Molecular Basis of Epithelial Appendage Morphogenesis*, ed. Cheng-Ming Chuong, Landes Bioscience, Texas, pp. 315-338.

Dunn, S.M., Keough, R.A., Rogers, G.E., Powell, B.C. (1998) Regulation of hair follicle keratin intermediate filament gene promoter, *Journal of Cell Science*, **111**, 3487-3496.

Harding, H. W. J. and Rogers, G. E. (1998) 'Physiology and Growth of Hair', in *Forensic Science of Hair*, ed. J. Robertson, Taylor and Francis, London, pp. 1-77.

Bawden, C.S., Powell, B. C., Walker, S. K. and Rogers, G. E. (1998) Expression of a wool intermediate filament keratin transgene in sheep alters fibre structure, *Transgenic Research*, **7**, 1-15.

Dunn, S.M., Keough, R.A., Rogers, G.E., Powell, B.C. (1999) Regulation of hair gene expression, *Experimental Dermatology*, **8** (4), 341-342.

Rogers, G. E. (2000) 'Cells and molecules in the properties of hair and wool', in *The Royal Society/Unilever Indo Forum on Supramolecular and Colloidal Structures in Biomaterials and Biosubstrates*, eds. M. Lal, P.J. Lillford, V.M. Naik, and V. Prakash, Imperial College Press and The Royal Society, London, pp.335-363.

Rogers, G. E. (2000) Genetic engineering for novel fibres, *Journal of the Textile Institute*, **91**, 24-31.

Bawden, C.S., Penno, N.M., Hynd, P.I and Rogers, G. E. (2000) Genetic manipulation to modify wool properties and fibre growth rates, *Proceedings of the New Zealand Society of Animal Production*, **60**, 147-154.

Bawden, C.S., McLaughlan, C.M., Nesci, A. and Rogers, G.E. (2001) A unique type1 cytokeratin keratin intermediate filament gene family is abundantly expressed in the inner root sheaths of sheep and human hair follicles, *Journal of Investigative Dermatology*, **116**, 157-166.

Bawden, C.S., McLaughlan, C.M., Walker, S.K., Speck,P.A., Powell, B.C. Huson, M.J., Jones, L.J. and Rogers, G.E. (2001) 'Improvement of wool quality', in *Molecular Farming, Proceedings of the OECD workshop La Grande Motte France*, ed.J-P.Toutant, INRA editions, RD 10 Paris, pp. 67-76.

Rogers, G.E. and Hynd, P.I. (2001) Animal models and culture methods in the study of hair growth in Disorders of the Hair, guest ed. R.D. Sinclair, *Clinics in Dermatology*, **19**, 105-119.

Fraser, R.D.B., Rogers, G.E. and Parry, D.A.D. (2003) Nucleation and growth of macrofibrils in trichocyte (hard-a) keratins, *Journal of Structural Biology*, **143**, 85-93.

Rogers, G. E. (2003) Memoir for Dr. P. M. Steinert former PhD student, *Journal of Investigative Dermatology*,**121** (8): iv.

Rogers, G.E. (2004) Hair follicle differentiation and regulation, *International Journal of Developmental Biology*, **48**, 163-170.

Rogers, G. E. (2006a) Irwin Freedberg: keratins before the beginning, *Journal of Investigative Dermatology*, **126**, 516-517.

Rogers, G. E. (2006b) Biology of the wool follicle: an excursion into a unique tissue interaction system waiting to be re-discovered, *Experimental Dermatology*, **15**, 931-949.

Jones, L. N. and Rogers, G. E. (2005) 'Protein expression in developing wool fibre cuticle cells', in *Proceedings 11<sup>th</sup> International Wool Research Conference*, eds. K. Byrne and others, 108 FWSA.

Rogers, G. E. and Bawden, C. S. (2007) 'Improvement of wool production through genetic manipulation' in *Advances in Wool*, ed. N. Johnson, Woodhead Publishing, Cambridge, UK.

Rogers, G. E. and Elliott, W. H. (2008) Robert Henry Symons, *Biographical Memoirs of Fellows of the Royal Society*, **54**, 383-400, Royal Society, London.

Rogers, G. E. and Elliott, W. H. (2008) R. H. Symons, *Historical Records of Australian Science*, **19**, 191-213, CSIRO Publishing, Canberra.

Rogers, G.E. and Koike, K. (2009) Laser capture microscopy in a study of expression of structural proteins in the cuticle cells of human hair, *Experimental Dermatology*, **18**(6), 541-547.

Li S.W., Ouyang, H.S., Rogers, G.E., Bawden, C.S. (2009) Characterisation of the structural and molecular defects in fibres and follicles of the Merino felting lustre mutant, *Experimental Dermatology*, **18**(2), 134-142.

Rogers, G.E. and Schlink, A.C. (2009) 'Wool Growth and Production', in *International Sheep and Wool Handbook*, ed. David Cottle, Nottingham University Press UK.

Rogers, G.E. (2009) 'From citrulline to deamination - a personal perspective', in *Progress in Deimination and Skin Biology*, The 1<sup>st</sup> International Symposium on Deimination and Skin Biology April 11<sup>th</sup> 2009, ed. Hidenari Takahara, Architect Incorporated, Tokyo, Japan.

Jones, L.N., Rogers, G.E. and Sinclair, R.D. (2010) Location of keratin-associated proteins in developing fibre cuticle cells using Immunoelectron microscopy, *International Journal of Trichology*, **2**, 89-95.



Rogers, G.E. (2013) William Herman Elliott FAA, 1925-2012 *Historical Records of Australian Science*, Canberra, **24**, 1-16, CSIRO Publishing, Canberra.

Rogers George E. Thorburn Brailsford Robertson: Brilliant Scientist, Innovator and Australia's First Professor of Biochemistry (2017) *Historical Records of Australian Science*, **28**, 1-12, CSIRO Publishing, Canberra.

Rogers, G. In Memoriam: Daphne Elliott. (2018) *Australian Biochemist*. **49** (2), 18-19.

Rogers, G.E., Miller, A., Parry, D.A.D. (2020) R.D.B. Fraser, *Historical Records of Australian Science*, **31**, 157-168, CSIRO Publishing, Canberra.