

## INFORMAZIONI PERSONALI

**Cognome:** Mackay  
**Nome:** Andrew Reay  
**Data di nascita:** 6 Gennaio, 1959  
**Luogo di nascita:** Birmingham, UK  
**Cittadinanza:** GB

**Posizione:** afferente al Dipartimento di Scienze Cliniche Applicate e Biotecnologiche

## STUDI

1977 Diploma di Scuola Superiore ( National GCE 'O' e 'A' Level).  
1981 Laurea in Zoologia presso L'Universita' di Durham, UK.  
1986 Conseguimento del titolo di Doctor of Philosophy (Ph.D.) in Medicina Sperimentale presso l'Universita' di Londra, UK.

## ESPERIENZA PROFESSIONALE

1981-1986 Attività di ricerca, presso il Dipartimento di Patologia Sperimentale St. Bartholomew's Hospital, West Smithfield, London, UK.  
1986-1987 Attività di ricerca presso il Dipartimento di Dermatologia St. Bartholomew's Hospital, West Smithfield, London, UK.  
1987-1989 attività di ricerca , come Visiting Fellow, al National Cancer Institute, Department of Pathology, National Institutes of Health di Bethesda, MD, USA.  
1989-1991 Attività di ricerca , come Visiting Associate, al National Cancer Institute, Department of Cancer Etiology, National Institutes of Health di Bethesda, MD, USA.  
1991-1993 Ricercatore presso il Consorzio Biolaq, L'Aquila ed il Dipartimento di Medicina Sperimentale, Università dell'Aquila.  
1993-1994 Collaboratore Scientifico  
1994-1995 CEE Fellow, Dipartimento di Medicina Sperimentale, Università dell'Aquila.  
1995-2000 Ricercatore Universitario, per gruppo di disciplina n. 70, Dipartimento di Medicina Sperimentale, Università dell'Aquila.  
2000-2003 Professore Associato (non confermato) Med-04 Patologia Generale Dipartimento di Medicina Sperimentale, Università dell'Aquila.  
2003 ad oggi Professore Associato (confermato) Patologia Generale (Med-04) Dipartimento di Medicina Sperimentale, Università dell'Aquila.

**BORSE DI STUDIO**

- 1987-1991 Vincitore: "Fogarty Fellowship", USA.
- 1994-1995 Vincitore Borsa : "Studio AIDS", IT.

**SOGGIORNI IN LABORATORI STRANIERI**

- 1981-1987 Attività di ricerca, come research Assistant, Department of Experimental Pathology and Dermatology, St Bartholomew's Hospital Medical College of the University of London, London, UK.
- 1987-1989 Attività di ricerca, come "Visiting Fellow", Department of Pathology National Cancer Institute, National Institutes of Health, MD, USA.
- 1989-1991 Attività di ricerca, come "Visiting Associate", al Department of Cancer Etiology, National Cancer Institute, National Institutes of Health, MD, USA.

**Società Scientifiche e Consigli Editoriali**

- 1989-oggi Membro della American Association for Cancer Research
- 2016-oggi Membro del Consiglio Editoriale per: "Journal of Experimental & Clinical Cancer Research" e "Henry Journal of Cell & Molecular Biology".

COMPETENZE PERSONALI

Lingua madre Inglese

Altre lingue

COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
Ascolto	Lettura	Interazione	Produzione orale	
C2	C2	C2	C2	C2
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto				
ITALIANO	Inserire il livello	Inserire il livello	Inserire il livello	Inserire il livello
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto				

Livelli: A1/A2: Utente base - B1/B2: Utente intermedio - C1/C2: Utente avanzato  
[Quadro Comune Europeo di Riferimento delle Lingue](#)

Competenza digitale

BUONA				
Elaborazione delle informazioni	Comunicazione	Creazione di Contenuti	Sicurezza	Risoluzione di problemi

## Pubblicazioni:

1. Sin YM, Sedgewick AD, **Mackay AR**, Willoughby DA. Effect of electric acupuncture on acute inflammation. *Am J Acupuncture* **11**: 359-362, 1983.
2. Sedgwick AD, **Mackay AR**, Bates MB, Willoughby DA. The role of plasma factors in the adherence of leucocytes to vascular endothelial cells. *J Pathol* **140**: 9-16, 1983.
3. Sedgwick AD, Rutman A, Sin YM, **Mackay AR**, Willoughby DA. The effects of levan on the acute inflammatory response. *Br J Exp Pathol* **65**: 215-222, 1984.
4. Sedgwick AD, Sin YM, **Mackay AR**, Al-Duaij A, Willoughby DA. Studies into the mode of action of non-steroidal anti-inflammatory drugs using a model of facsimile synovium. *J Pharm Pharmacol* **36**(3): 171-174, 1984.
5. Edwards JCW, **Mackay AR**, Sedgwick AD, Willoughby DA. Mode of formation of synovial villi. *Ann Rheum Dis* **42**: 585-590, 1983.
6. Bates MB, Bechara GH, Sedgwick AD, Sin JM, **Mackay AR**, Willoughby DA. Effect of lymphocyte derived pro-inflammatory factors on carageenan pleurisy in the rat. *Int. Arch. Allergy Appl Immunol* **73**: 189-190, 1984.
7. Corke CF, Sedgwick AD, **Mackay AR**, Bates MB, Willoughby DA. Enhancement of colloidal clearance in normal rats by sodium diethyl dithiocarbamate. *Int J Immunopharm* **6**: 535-537, 1984.
8. **Mackay AR**, Sedgwick AD, Dunn CJ, Flemming WE, Willoughby DA. The transition from acute to chronic inflammation. *Br J Dermatol* **113** (sup.28): 34-48, 1985.
9. **Mackay AR**. The interaction of leucocytes with vascular endothelial cells in vitro with respect to experimental Inflammation in the rat. Ph. D. Thesis, University College, London University, 1986.
10. Kovacs IB, Meryk-Thomas RH, **Mackay AR**, Rustin MHA, Kirby JDT. Increased chemiluminescence of polymorphonuclear leucocytes from patients with progressive systemic sclerosis. *Clin Sci* **70**(3): 257-261, 1986.
11. Meryck Thomas RH, Rademaker M, Grimes SM, **Mackay A**, Kovacs IB, Cook ED, Bowcock SM and Kirby JD. Nifedipine in the treatment of Raynaud's phenomenon in patients with systemic sclerosis. *Br J Dermatol* **117**: 237-241, 1987.
12. **Mackay AR**, Corbitt RH, Hartzler JL, Thorgeirsson UP. Basement membrane type IV collagen degradation: Evidence for the involvement of a proteolytic cascade independent of metalloproteinases. *Cancer Res* **50**: 5997-6001, 1990.
13. **Mackay AR**, Hartzler JL, Pelina MD, Thorgeirsson UP. Studies on the ability of 65kDa and 92kDa tumor cell gelatinases to degrade Type IV collagen. *J Biol Chem* **265**: 21929-21934, 1990.
14. Ballin M, **Mackay AR**, Hartzler JL, Nason A, Pelina MD, Thorgeirsson UP. Ras levels and metalloproteinase activity in normal versus neoplastic rat mammary tissues. *Clin Exp Met* **9**: 179-189, 1991.
15. **Mackay AR**, Ballin M, Pelina MD, Farina AR, Nason AM, Hartzler JL, Thorgeirsson UP. The effect of phorbol ester and cytokines on matrix metalloproteinases and tissue inhibitor of metalloproteinase expression in tumor and normal cell lines. *Invasion and Metastasis* **12**:168 -184, 1992.
16. Timonen T, Maenpaa A, Kovanen P (Thorgeirsson UP, **Mackay AR**): Isolation and characterization of human natural Killer Cells. In: *Practical Approach to Tumor Immunology*. Eds. G. Gallagher, R. C. Rees, C. W. Reynolds. Oxford University Press, Rapid Publications. pp.82-90, 1992.
17. Thorgeirsson UP, **Mackay AR**. Characterization of metastatic tumour cells. In: *Practical Approach to tumor* Ed G. Gallagher, R. C. Rees, C. W. Reynold Oxford University Press, Rapid Publications pp. 399-410, 1992.
18. **Mackay AR**, Gomez DE, Cottam DW, Rees RC, Nason AM, Thorgeirsson UP. Identification of the 72kDa (MMP-2) and 92kDa (MMP-9) gelatinase/type IV collagenase in preparations of laminin and Matrigel<sup>TM</sup>. *Biotechniques*, **15**:1048-1051, 1993.
19. **Mackay AR**, Gomez DE, Nason AM, Thorgeirsson UP. Studies on the effects of laminin, E-8 fragment of laminin and synthetic laminin peptides PA22-2 and YIGSR on matrix metalloproteinase and tissue inhibitor of metalloproteinase expression. *Lab Invest* **70**: 800-806, 1994.
20. Ulisse S, Farina AR, Piersanti D, Tiberio A, Cappabianca L, D'Orazi G, Jannini EA, Malykh O, Stetler-Stevenson WG, D'Armiendo M, Gullino A, **Mackay A.R**. Follicle Stimulating Hormone increases the expression of tissue inhibitors of metallo-proteinases TIMP-1 and TIMP-2 and induces TIMP-1 AP-1 site binding complex(es) in pre-pubertal rat Sertoli cells. *Endocrinol* **135**(6): 2479-2487, 1994.
21. Boraschi D, Bossu P, Ruggiero P, Tagliabue A, Bertini R, Macchia G, Gasbarro C, Pellegrini L, Melillo G, Ulisse E, Visconti U, Bizzarri C, Del

- Grosso E, **Mackay AR**, Frascotti G, Frigerio F, Grifantini R, Grandi, G. Mapping of receptor binding sites on IL-1B by reconstruction of IL-1ra-like domains. *J Immunol* 155:4719-4725, 1995.
22. Farina AR, Tiberio A, Tacconelli A, Cappabianca L, Gulino A, **Mackay, AR**. Identification of Plasminogen in Matrigel and its activation by reconstitution of this basement membrane extract. *Biotechniques*, 21: 904-909, 1996.
  23. Festuccia C, Bologna M, Vicentini C, Tacconelli A, Miano R, Violini S, **Mackay AR**. Increased matrix metalloproteinase-9 secretion in short term tissue cultures of prostatic tumour cells. *Int J Cancer*, 69: 386-393, 1996.
  24. Farina AR, Cappabianca L, **Mackay AR**, Tiberio A, Tacconelli A, Tessitore A, Frati L, Martinotti S, Gulino A. Transcriptional regulation of Intercellular Adhesion Molecule 1 by phorbol ester in human neuroblastoma cell line SK-N-SH involves Jun- and fos-containing activator protein 1 site binding complex(es). *Cell Growth Differ* 8: 789-800, 1997.
  25. Tiberio A, Farina AR, Tacconelli A, Cappabianca L, Gulino A, **Mackay AR**. Retinoic acid enhanced invasion through reconstituted basement membrane by human SK-N-SH neuroblastoma cells involves membrane-associated tissue-type plasminogen activator. *Int J Cancer* 73: 740-748, 1997.
  26. Farina AR, Coppa A, Tiberio A, Tacconelli A, Turco A, Colletta G, Gulino A, **Mackay AR**. Transforming growth factor-B 1 enhances the invasiveness of human MDA-MB-231 breast cancer cells by up regulating urokinase activity. *Int J Cancer* 75: 721-730, 1998.
  27. Teti A, Farina AR, Villanova I, Tiberio A, Tacconelli A, Sciortino G, Chambers AF, Gulino A, **Mackay AR**. Activation of MMP-2 by human GCT23 giant cell tumour cells induced by osteopontin bone sialoprotein and GRGDSP peptide is RGD and cell shape change dependent. *Int J Cancer* 77: 82-93, 1998.
  28. Farina AR, Tacconelli A, Teti A, Gulino A, **Mackay, AR**. Tissue inhibitor-2 protection of matrix metalloproteinase-2 from degradation by plasmin is reversed by divalent cation chelator EDTA and the bisphosphonate Alendronate. *Cancer Res* 58: 2957-2960, 1998.
  29. Farina AR, Tacconelli A, Vacca A, Maroder M, Gulino A, **Mackay AR**. Transcriptional up-regulation of matrix metalloproteinase-9 expression during spontaneous epithelial to neuroblast phenotype conversion by SK-N-SH neuroblastoma cells, involved in enhanced invasivity, depends upon GT-box and nuclear factor  $\kappa$ B. *Cell Growth Differ* 10:353-367, 1999.
  30. Bisgaard HC, **Mackay AR**, Gomez DE, Ton PT, Thorgeirsson SS, Thorgeirsson UP. Spontaneous metastasis of rat liver epithelial cells transformed with v-ras and v-raf/v-myc: association with different phenotypic properties. *Invasion Metastasis* 17: 240-250, 1999.
  31. Ricca A, Biroccio A, DeBufalo D, **Mackay AR**, Santoni A, Cippitelli, M. Bcl-2 over-expression enhances NF- $\kappa$ B activity and induces MMP-9 transcription in human MCF7ADR breast-cancer cells. *Int J Cancer* 86: 188-196, 2000.
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  33. Farina AR, Masciulli M-P, Tacconelli A, Cappabianca L, De Santis G, Gulino A, **Mackay AR**. All-trans Retinoic Acid Induces NF- $\kappa$ B activation, Matrix Metalloproteinase-9 expression and Enhances Basement Membrane Invasivity of Differentiation Resistant Human SK-N-BE 9N Neuroblastoma Cells. *Cell Growth Differ* 13: 343-354, 2002.
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  37. Farina AR, Tacconelli A, Cappabianca L, DeSantis G, Gulino A, **Mackay AR**. Thioredoxin inhibits microvascular endothelial capillary tubule formation. *Exp Cell Res* 291: 474-483, 2003.
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  39. Cappabianca L, Farina AR, Tacconelli A, Mantovani R, Gulino A, **Mackay AR**. Reconstitution of TIMP-2 expression in SH-SY5Y neuroblastoma cells by 5-azacytidine is mediated transcriptionally by NF-Y through an inverted CCAAT site. *Exp Cell Res* 286: 209-218, 2003.

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41. Tacconelli A, Farina AR, Cappabianca L, Gulino A, **Mackay AR**. TrkAIII: A Novel Hypoxia-regulated Alternative TrkA Splice Variant of Potential Physiological and Pathological Importance. *Cell Cycle* 4(1); 8-9, 2005
42. Tacconelli A, Farina AR, Cappabianca L, Gulino A, **Mackay AR**. Alternative TrkAIII splicing: a potential regulated tumor-promoting switch and therapeutic target in Neuroblastoma. *Future Oncol* 1(5); 689-698, 2005
43. Thompson EW, **Mackay AR**. Review of: Opposing effects for specific TIMPs in breast cancer. *Breast Cancer Online* 8, 2005.
44. Farina AR, Tacconelli A, Cappabianca L, Cea G, Panella S, Chioda A, Rucci N, Gulino A, **Mackay AR**. "Alternative TrkA splicing and Cancer". In: *Alternative Splicing in Cancer* (Ed. Julian Venables, Transworld Research Network, Kerala, India) pp67-87, 2006.
45. Farina AR, Tacconelli A, Cappabianca L, Cea G, Panella S, Chioda A, Gallo R, Cinque B, Sferra R, Vetuschi A, Campese AF, Screpanti I, Gulino A, **Mackay AR**. TrkAIII expression in the Thymus. *J Neuroimmunol* 183; 151-161, 2007.
46. Farina AR, Tacconelli A, Cappabianca L, Cea G, Chioda A, Romanelli A, Pensato S, Pedone C, Gulino A, **Mackay AR**. The neuroblastoma tumour-suppressor TrkAI and its oncogenic alternative TrkAIII splice variant exhibit geldanamycin-sensitive interactions with Hsp90 in human neuroblastoma cells. *Oncogene* 28:4075-4094, 2009.
47. Farina AR, Tacconelli A, Cappabianca L, Cea G, Panella S, Chioda A, Romanelli A, Pedone C, Gulino A, **Mackay AR**. The alternative TrkAIII splice variant targets the centrosome and promotes genetic instability. *Mol Cell Biol* 29: 4812-4830, 2009 .
48. Farina AR, Cappabianca L, DeSantis G, Di Ianni N, Ruggeri P, Ragone M, Merolle S, Tonissen KF, Gulino A, **Mackay AR**. Thioredoxin stimulates MMP-9 expression, de-regulates the MMP-9/TIMP-1 equilibrium and promotes MMP-9 dependent invasion in human MDA-MB-231 breast cancer cells. *FEBS Lett* 585:3328-3336, 2011.
49. Farina AR, Cappabianca L, Ruggeri P, Di Ianni N, Ragone M, Merolle S, Sano K, Stracke ML, Horowitz JM, Gulino A, **Mackay AR**. Constitutive autotaxin transcription by Nmyc-amplified and non-amplified neuroblastoma cells is regulated by a novel AP-1 and SP-mediated mechanism and abrogated by curcumin. *FEBS Lett* 586: 3681-3691, 2012.
50. Farina AR, Cappabianca L, Di Ianni N, Ruggeri P, Ragone M, Merolle S, Gulino A, **Mackay AR**. Alendronate promotes plasmin-mediated MMP-9 inactivation by exposing cryptic plasmin degradation sites within the MMP-9 catalytic domain. *FEBS Lett* 586:2366-2374, 2012.
51. Farina AR, Cappabianca L, Ruggeri P, Di Ianni N, Ragone M, Merolle S, Gulino A, **Mackay AR**. Alternative TrkA splicing and neuroblastoma. In: *Neuroblastoma - Present and Future /ISBN 978-953-307-728-4*. (Ed. Hiroyuki Shimada, Intech), 2012.
52. Farina AR, Di Ianni N, Cappabianca L, Ruggeri P, Ragone M, Ianni G, Gulino A, **Mackay AR**. TrkAIII promotes microtubule nucleation and assembly at the centrosome in SH-SY5Y neuroblastoma cells, contributing to an undifferentiated anaplastic phenotype. *Biomed Res Int* 2013:740187, 2013.
53. Ruggeri P, Farina AR, Cappabianca L., Di Ianni N., Ragone M., Merolle S., Gulino A, **Mackay AR**. Neurotrophin receptor involvement in human neuroblastoma. *Neuroblastoma/ISBN 980-953-307-878-1*. (Ed. Hiroyuki Shimada, Intech), 2013.
54. Ruggeri P, Farina AR, Di Ianni N., Cappabianca L., Ragone M., Ianni G, Gulino A, **Mackay AR**. The TrkAIII oncogene inhibits mitochondrial free radical ROS-induced death of SH-SY5Y Neuroblastoma cells by augmenting SOD2 expression and activity at the mitochondria, within the context of a tumour stem cell-like phenotype. *PLoS One* 9: e94568. doi: 10.1371/journal.pone.0094568, 2014
55. Farina AR, **Mackay AR**. Gelatinase B/MMP-9 in Tumour Pathogenesis and Progression. *CANCERS (Basel)* 6:240-96, 2014.
56. Farina AR, Cappabianca L, Ruggeri P, Gneo L, Maccarone R, **Mackay AR**. Retrograde TrkAIII transport from ERGIC to ER; re-localisation mechanism for oncogenic activity. *Oncotarget* 6: 35636-3565. 2015
57. Ruggeri P, Cappabianca L, Farina AR, Gneo L, **Mackay AR**. NGF FLIPs TrkA onto the death TRAIL in neuroblastoma cells. *Cell Death Dis* 7:e2139. doi: 10.1038/cddis.2016.49, 2016.
58. Ruggire P, Cappabianca L, Farina AR, Gneo L, **Mackay AR**. NGF sensitizes TrkA SH-SY5Y cells to TRAIL-induced apoptosis. *Cell Death Discov* 2:16004. doi:10.1038/cddiscovery.2016.4, 2016.
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**Dati personali** Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 “Codice in materia di protezione dei dati personali”.