

The Department of Dermatology undertakes research into skin disease, skin cancer, skin ageing and hair follicle regeneration with the ultimate aim of improving the care of our patients.

About us

St. Vincent's Dermatology and its inaugural Professor, Robin Marks AM, are recognised internationally for the research that led to the creation and implementation of the SunSmart and Slip, Slop, Slap public health campaigns. St. Vincent's Dermatology is the world leader in dermatology education with innovative and effective programs teaching pharmacists, nurses, podiatrists, general practitioners and, of course, medical students.

St. Vincent's is the home of the only academic dermatology department in Victoria with three full-time Professors, five Associate Professors, five lecturers, seven additional sessional consultant grade dermatologists and three registrars in training. We provide one of the largest, most sophisticated and

most comprehensive dermatology services in Victoria. This service is complemented by research that focuses on skin disease, skin cancer, photobiology, skin ageing and hair follicle regeneration.

St. Vincent's plans to build Victoria's first dedicated dermatology translational research laboratory. The dermatology laboratory will link in and share facilities with the immediately adjacent immunology laboratory. The laboratory will focus on the isolation and culture and manipulation of adult stem cells from the skin. These adult stem cells are immune privileged (universal donors) and highly plastic. They can be converted into teeth, feathers, bone, nerve, muscle and fat. In addition, skin stem cells have been used to reconstitute the bone marrow following potentially lethal radiation in mice. We believe this source of adult stem cells has the potential to be a viable alternative to embryonic stem cells.

Projects in progress or completed

Doctor of Philosophy Dr Leona Yip
Supervisors: Prof R Sinclair, Prof S Harrap, Dr J Ellis

The genetic basis of female pattern hair loss. The androgen receptor gene and the aromatase gene are being investigated for involvement in the causation of female pattern hair loss, a condition affecting over 600,000 Australian women. Gene discovery may lead to novel therapies.

Dr Anousha Yazdabadi

Supervisors: Prof R Sinclair, Dr S Harrison

The treatment of female pattern hair loss with oral antiandrogens. Pilot data indicated that oral antiandrogens can arrest hair loss in over 90 per cent of women affected by female pattern hair loss and stimulate partial regrowth in approximately 30 per cent. This investigator-initiated, placebo-controlled, double-blind clinical study will be the first such study in this disease.

Dr Azar Asgari

Supervisors: Prof R Sinclair, Prof R Kapsa, Assoc Prof L Jones, Prof C Jahoda (UK)

Isolation, culture, viral transfection and reimplantation of hair follicle dermal papilla as a model for cell-based therapies. Cultured hair follicle dermal cells can induce neogenesis of entire hair follicle following reimplantation into the skin. Viral transfection of cultured hair follicle dermal cells leads to production of measurable quantities of drug; however it is not known whether transfection diminishes the inductive capacity of these cells following reimplantation.

Honours (Science) Martin Lee

Supervisors: Prof R Sinclair, Dr K Taubman

Fate of hair follicle dermal papilla cells following culture, labelling and re-injection into a peripheral vein. Injection of cultured hair follicle dermal cells into a peripheral vein has been used to rescue a mouse from aplastic anaemia following a potentially lethal dose of irradiation. However it is not known whether these cells have a specific bone-marrow reconstitute effect or a non-specific homing to sites of injury.

The team

Prof Rodney Sinclair, Director; Assoc Prof Chris Baker; Dr Alvin Chong; Assoc Prof Peter Foley; Dr Jack Green; Gail Hunt; Assoc Prof Damien Jolley; Assoc Prof Les Jones; Dr Robert Kelly; Dr Adrienne Lee; Dr Chris McCormack; Dr Matheen Mohamed; Dr Rosemary Nixon; Dr Tim O'Brien; Prof George Rogers; Dr Gayle Ross; Nick Rufaut; Dr Helen Saunders; Dr Mei Tam; Dr Belinda Welsh; Dr Lee Mai Yap

Grants

Sinclair R, Yazdabadi A

Investigation into the treatment of female pattern hair loss. International Society of Hair Restoration Surgery, (2008), \$20,000

Sinclair R, Asgari AZ, Rufaut NW

Assessment of the potential of human and rodent hair follicle stem cell for cardiac muscle tissue engineering. CASS Foundation, (2008), \$45,000

Publications

Anavekar NS, Chong AH, Norris R, Dowling J, Goodman D 2008, 'Nephrogenic systemic fibrosis in a gadolinium-naive renal transplant recipient', *Australas J Dermatol*, 49, 1, 44-7

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Ellis JA, Sinclair RD 2008, 'Male pattern baldness: current treatments, future prospects', *Drug Discov Today*, 13, 17-18, 791-7

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Price C, Sinclair R 2008, '*Fast Facts – Minor Surgery*', Health Press Limited, Oxford 2nd Edition

Reich K, Sinclair R, Roberts G, Griffiths CE, Tabberer M, Barker J 2008, 'Comparative effects of biological therapies on the severity of skin symptoms and health-related quality of life in patients with plaque-type psoriasis: a meta-analysis', *Curr Med Res Opin*, 24, 5, 1237-54

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Yip L, Ryan A, Sinclair R 2008, 'Squamous cell carcinoma arising within folliculitis decalvans', *Br J Dermatol*, 159, 2, 481-2

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Yip L, Harrison S, Foley P 2008, 'Infliximab rescue of efalizumab withdrawal flare and psoriasis-precipitated depression', *Australas J Dermatol*, 49, 4, 250-1

Yip L, Mason G, Pohl M, Sinclair R 2008, 'Successful surgical management of lipoedematous alopecia', *Australas J Dermatol*, 49, 1, 52-4

Yip L, Horev L, Sinclair R, Zlotogorski A 2008, 'Atrichia with papular lesions: a report of three novel human hairless gene mutations and a revision of diagnostic criteria', *Acta Derm Venereol*, 88, 4, 346-9