



Characterisation of novel Aquaporin channel blockers for treatments of brain oedema and cancer

Thursday 19 May 1 – 2pm

Speaker

Professor Andrea Yool

University of Adelaide

Location

Slatyer Seminar Room

R.N. Robinson Building (Bldg 46),
Cunningham Close, ANU

Contact

E rowena.martin@anu.edu.au

T +61 2 619 70051

This lecture is free and open to the public

BSB event information:

biology.anu.edu.au/News/events-bsb.php



The Aquaporin Research Program is testing novel blocking agents designed by Professor Andrea Yool and her research team, as tools to inhibit the migration of aggressive cancers such as colon cancer and glioblastoma, and to improve treatment of brain oedema after injury.

The water channel Aquaporin-1 is expressed in the leading edges of rapidly migrating cells including highly metastatic cancer cells and is required for rapid cell movement. Selective blockers are proving to be effective in suppressing cancer cell migration and potentially limiting

metastasis. Modulators of Aquaporin-4 channels expressed in brain glia are beneficial in reducing oedema formation early after traumatic injury and enhancing resolution of late oedema. Long awaited pharmacological tools for AQP's show promise as agents for difficult diseases.

About the speaker

Andrea Yool earned her PhD degree in Physiology & Cell Biology from the University of California Santa Barbara in 1985. After postdoctoral work at Scripps Clinic (1986-89) and at Stanford University (1990-1992), she joined the University of Arizona Dept of Physiology, with joint appointments in Neuroscience and Pharmacology. In 2004 she was promoted to full Professor in the three disciplines, and in 2007 she relocated with her family to South Australia, appointed as Professor and Head of Physiology at the University of Adelaide. Yool's research program is focused on (i) identifying molecular mechanisms of function and regulation in aquaporin channels, and (ii) designing and characterising first-in-class small molecule ligands that directly modulate aquaporin channel activity. Her team pioneered the first drug-like ligand AQP pharmacological agents that include selective antagonist and agonist compounds as tools for basic research and clinical innovation, currently being tested in in vivo collaborative projects in Australia and internationally.

Presented by

The Research School
of Biology

ANU College of
[Medicine, Biology
& Environment](#)