

Ludwig's Professor Antony Burgess among three Victorian scientists awarded prestigious ATSE Clunies Ross award



Professor Antony Burgess, Professor Ashley Dunn and Dr Nicholas Gough have been jointly recognised for their work in having first purified and cloned the blood cell growth factor GM-CSF, which aids bone-marrow recovery in cancer patients treated with chemotherapy or radiation therapy.

Recognising outstanding work undertaken by Victoria's medical research institutes focused on improving the health and well-being of people globally, the ATSE

Clunies Ross awards are among Australia's most prestigious honours for science and technology.

This success has changed the field of experimental haemopoiesis and cancer treatment proving another means of therapy and resulting in better patient outcomes.

Professor Burgess, Professor Dunn and Dr Gough join a list of pre-eminent Victorian scientists who are also Clunies Ross award recipients including Sir Gustav Nossal, immunologist, and Professor Graeme Clark AC FRS FAA FTSE, inventor of the bionic ear.

In the early 70s Professor Burgess began the lengthy process of working through the technically challenging task of purifying to homogeneity the minute amounts of GM-CSF. Embracing new technology developed in the US, Professor Burgess teamed with Leroy Hood to use gas-phase sequencing to determine the N-terminal portion of the amino acid sequence of GM-CSF.

In 1982 Drs Dunn and Gough teamed up to build on Professor Burgess' work by cloning the GM-CSF gene. Cloning genes was highly challenging at that time, however, they isolated the cDNA clone corresponding to GM-CSF. As only minute amounts of protein had been purified, only the N-terminal quarter of its amino acid sequence could be determined by Burgess and Hood to guide the search for cDNA. Continued research resulted in the construction of a cDNA library and two of the 100,000 clones screened proved to encode GM-CSF. This established that GM-CSF was a specific regulator of white blood cell production.