

Project Title	Cancer Council Western Australia Gastrointestinal Stromal Tumour Initiative (GIST)
Recipient	Prof Ruth Ganss
Institution	Harry Perkins Institute of Medical Research
Research description	<p>Gastrointestinal stromal tumours (GIST) arise from our digestive organs, for instance the stomach and intestine. If the cancer is discovered early, surgical removal may lead to a cure, but some cancers re-grow even after surgery. So called advanced GIST have already spread to distant organs and in most cases are treated with a drug called Gleevec. Most advanced GIST patients respond well to this drug which slows cancer growth. However, 90% of patients eventually become non-responsive to the drug due to drug resistance, enabling the cancer to progress and spread. This project has two parts: 1: To get a better understanding as to why some GIST re-grow after surgery and whether it would be possible to predict the outcome by looking more closely than before at the cancer's make-up. New technologies will be used and a multi-disciplinary collaboration between clinicians, biologists and bioinformaticians to look at every single cell the cancer harbours to get a better understanding of the cancer "support cells" and how they may foster cancer re-growth; and 2: It is known that GIST that grow have escaped detection by our immune system. Immune cells usually patrol our body and fight infections and are also supposed to destroy cancers. Whilst some immune cells are found in GIST it is not clear how to attract more of these cells into the cancer core and program them to fight the cancer from "inside". The team has already developed new drugs which work in preclinical models of pancreatic cancers and improve therapy. These drugs will be applied to pre-clinical GIST models with the hope to improve Gleevec therapy for longer lasting anti-cancer results. Similar immunotherapies have already revolutionized the treatment for previously incurable melanomas and lung cancer. Therefore, this research program aims at improving GIST prognostics and developing new therapies which harness the immune system.</p>
Funding from CCWA	\$193,862 in 2018 (total \$514,950 for 2018-2020)
Fully supported	In the name of the Initiative for cancer research into the diagnosis and treatment of Gastro Intestinal Stromal Cancer through the provision of the late Sandra O'Keeffe by including a gift in her Will to make this research possible