Chronopharmacology of anticancer drugs

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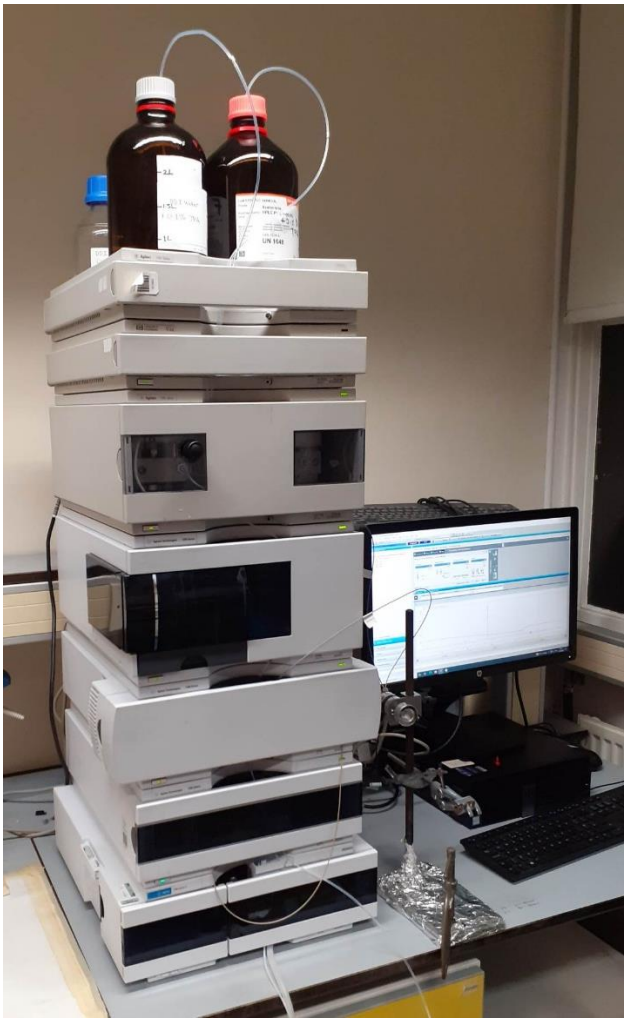
Equipment purchased with Warwick Cancer Research Centre (WCRC) Funding: fluorescence detector for an Agilent HPLC instrument.

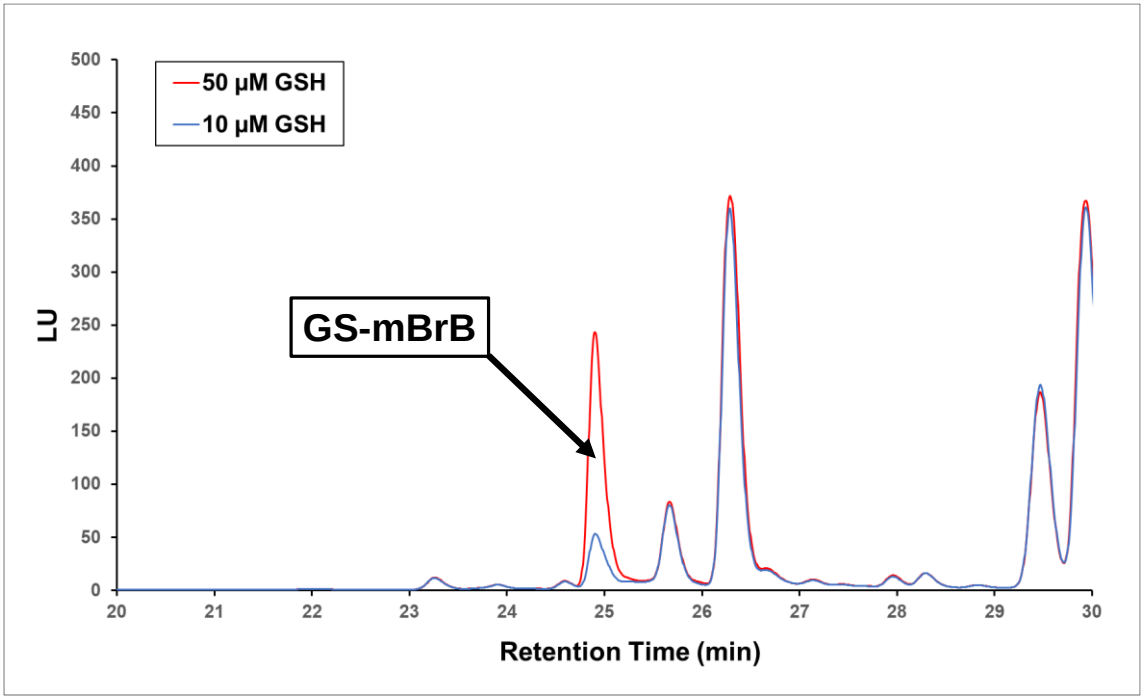
The new equipment is now installed and working. It is being used for the sensitive detection of the tripeptide antioxidant glutathione (GSH) in cancer cells and for studying time-dependent effects of treatment with organometallic anticancer drug candidates. Picture 1 is a photograph of our HPLC instrument with the new fluorescence detector at the very bottom.



Picture 1: the HPLC equipment

Cellular extract samples are combined with a fluorescent probe, monobromobimane (mBrB), which binds to strongly to GSH to form a detectable adduct (GS-mBrB). The fluorescence detector allows for the detection of GSH <1 µM, which would not be

possible using traditional UV-Vis absorption methods. Pictured below is and example of a fluorescence HPLC chromatogram showing the detection of the GS-mBrB adduct at different concentrations.



Picture 2: typical chromatogram – showing GSH peak