Non-small-cell lung cancer (NSCLC) accounts for 85% of lung cancers, 25% of which occurs in lifetime non-smokers; moreover lung cancer in never-smokers is estimated to be the fifth most common cancer death [**?**].

Combinatorial treatment strategies have been repeatedly shown to outperform the application of single-agent treatment and hold great potential for treatment of NSCLC [**?**] [**?**]. Combining drugs with different modes of action allows to target the heterogenous tumour cell population if NSCLC [**?**] [**?**]. The approach provides a solution This approach can provide a solution to evolving tumour resistance and reduce toxicity by avoiding high single drug doses [**?**]. However, despite improved treatment outcomes, and rapidly mounting number of newly discovered drugs, development of new multi-phase campaigns remains sporadic and non-systematic [**?**]. Moreover, the explosion of machine learning tools for drug discovery, such as docking-simulations, structured-based virtual screening, or protein folding is bound to increase the relative fraction of unexplored combination therapies.

To our knowledge, a CGG platform for 2D drug concentration screening does not exist. Moreover, application of Bayesian Optimisation to cancer drug screening has been limited to a single study [**?**] .