

Novel Commercial Surfactants from Synthetic Biology

Professor Anne Osbourn – JIC

Plants produce a huge array of natural products, some of which can have wide ranging industrial applications. Household products contain a range of chemicals called surfactants that are typically produced at least in part from petrochemicals and therefore highly dependent on fossil fuels. Saponins are surfactants produced by plants and are a potential bio-based alternative to the traditional chemically synthesised materials. However, most Saponins derived from plants are present at low levels, are often produced by rare/endangered plant species, and have limited structural diversity, making naturally occurring saponins too expensive for widespread commercial use.

In collaboration with Unilever and Croda, Professor Anne Osbourn at the John Innes Centre has developed a method for increasing diversity of saponins produced by plants. This resulted in the production of Neosaponin. NRP Translational funding will be used to increase the amount of the Neosaponin that can be produced and investigate the diverse possible uses of the new saponin in the industrial biotechnology, human health and agriculture sectors.