

A chemo-enzymatic approach to the bio-production of a nylon precursor from lignin in engineered bacteria

Stephen Wallace, University of Edinburgh (industry partners requested no public disclosure)

Summary

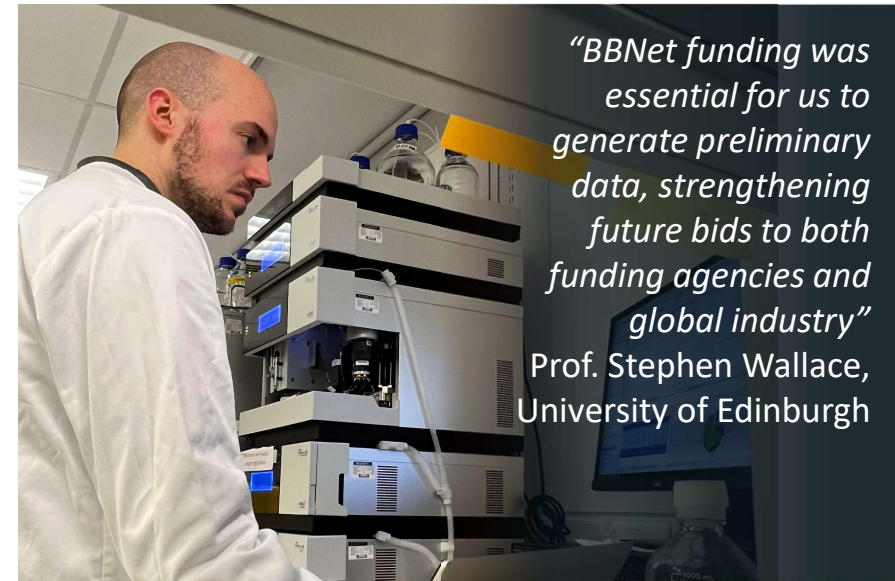
Exploring sustainable bio-production of adipic acid from lignin in a single step, increasing production levels and creating a greener process that releases no N₂O into the atmosphere.

Aims

- Increase the efficiency of a recently-discovered bioprocess from lignin to adipic acid in *E. coli*.
- Assess the feasibility of a chemo-enzymatic bio-hydrogenation approach.

Outcomes

- Verification of the bio-process has been verified.
- Improved process has attracted £1.7m follow-on funding for the next 3 years.
- Biocompatible metabolite hydrogenation was successful using external H₂ sources.



“BBNet funding was essential for us to generate preliminary data, strengthening future bids to both funding agencies and global industry”
Prof. Stephen Wallace,
University of Edinburgh

This proof-of-concept project was awarded by the Biomass Biorefinery Network and funded by BBSRC. For more information visit bbnet-nibb.co.uk.