ABSTRACT

ENHANCEMENT OF NAPHTHALENE DIOXYGENASE ACTIVITY DURING MICROBIAL INDIGO PRODUCTION

This invention relates to a process for the enhancement of naphthalene dioxygenase activity in organisms that have been transformed with DNA encoding the expression of a multiple component naphthalene dioxygenase enzyme. Cells containing the naphthalene dioxygenase enzyme are capable of producing indigo when cultured in the presence of indole. The invention includes procedures to enhance naphthalene dioxygenase activity by transforming a host cell with a DNA sequence that encodes at least two ferredoxin polypeptides for each reductase polypeptide and iron-sulphur polypeptide, by growing transformed organisms in the presence of iron, or by transforming a host cell with a DNA sequence that encodes a ferredoxin analog.