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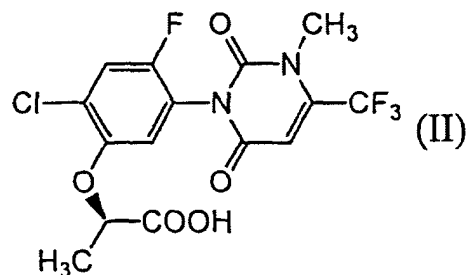
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81675 München (DE)(54) **WEED CONTROLLER METABOLISM PROTEINS, GENES THEREOF AND USE OF THE SAME**

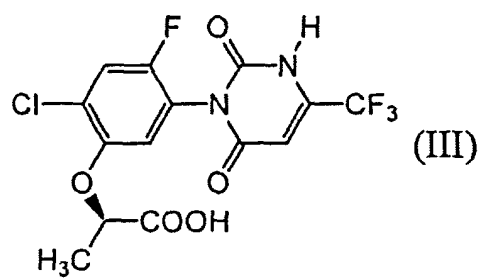
(57) The present invention provides, for example, DNA encoding a herbicide metabolizing protein selected from the protein group below. Such DNA may, for example, be employed to produce herbicidally resistant plants.

<protein group>

a protein comprising the amino acid sequence shown in SEQ ID NO: 1, 2, 3, 108, 159, 160, 136, 137, 138, 215, 216, 217, 218, 219, 220, 221, 222, 223 or 224,
a protein having an ability to convert in the presence of an electron transport system containing an electron donor, a compound of formula (II):



to a compound of formula (III):



and comprising an amino acid sequence having at least 80% sequence identity with an amino acid sequence shown in any one of SEQ ID NO: 1, 2, 3, 108, 159, 136, 137, 138, 215, 216, 217, 218, 219, 220, 221, 222, 223 or 224 or an amino acid sequence having at least 90% sequence identity with an amino acid sequence shown in any one of SEQ ID NO: 160, 215, 216, 218, 222 or 224.