

Genes Encoding Picric Acid Degradation

Description of Technology: A 12 kb gene cluster has been isolated from *Rhodococcus erythropolis* containing several open reading frames implicated in the degradation of picric acid. The gene cluster contains 12 ORF's, all of which were isolated by a method employing differential gene display.

Patent Listing:

1. **US Patent No. 6461856**, Issued October 8, 2002, "Genes encoding picric acid degradation"
<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HTOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6461856.PN.&OS=PN/6461856&RS=PN/6461856>
2. **US Patent No. 6355470**, Issued October 8, 2002, "Genes encoding picric acid degradation"
<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HTOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6461856.PN.&OS=PN/6461856&RS=PN/6461856>

Market Potential: Mounting public concern and increasing government regulations have provided the impetus for a safe, effective means to remediate picric acid contaminated environments. Past methods of disposing of munitions and other wastes containing picric acid have included dumping at specified land-fill areas, isolation in suitable, reinforced containers, land based deep-welling, dumping in deep water at sea and incineration. All of these methods carry some potential for harm to the environment. For example, incineration creates a problem of air pollution and disposal on land risks the possibility that toxic substances will elute or leach into locations where they may threaten aquatic life forms, animals or humans. A more desirable disposal method might incorporate a chemical or enzymatic degradative process.

Benefits:

- Safe
- Effective means to remediate picric acid contaminated environments

Applications:

- Molecular biology
- Microbiology

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