Correction to note on linkage data for new ser mutants in NN #21

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Abstract
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Kinsey, J.A. Three new \( p \)-fluorophenylalanine resistant (\( fpr \)) mutants.

Three previously unreported \( fpr \) mutants have been isolated in my laboratory. \( fpr-3 \) and \( fpr-4 \) were isolated as \( p \)-fluorophenylalanine (FPA) resistant mutants on \( su(mtr) \) background, \( fpr-3 \) in \( su(mtr) \) (18-11) and \( fpr-4 \) in \( su(mtr) \) (17-2). \( fpr-5 \) was isolated in the wild type strain 74-OR23-1A background. All three mutants are characterized by resistance to FPA on solid media at a concentration of 10 \( \mu \)g/ml, which is completely inhibitory to wild type. Table 1 compares the growth of the three new mutants with that of \( fpr-1 \), \( mtr \) (10d) and 74-OR23-1A on various media.

\( fpr-3 \) is on linkage group III, close to the \( trp-1 \) locus. Spores that did not require tryptophan were isolated from a cross of \( trp-1 \) (10575) \( x \) \( fpr-3 \) and tested for recombination between \( trp-1 \) and \( fpr-3 \). From there tests \( fpr-3 \) appears to be 0.35 centimorgans from \( trp-1 \) (568 \( trp^+ \) spores tested; germination 96%). Segregation for \( trp-1 \) and \( fpr-3 \) in 100 random spores was normal.

\( fpr-4 \) is on linkage group V. Linkage was estimated by a plating technique. \( fpr-4 \) and \( inl \) appear to be 11 centimorgans apart. On the basis of the segregation of an unselected marker (\( pob-1 \)) in recombinants, \( fpr-4 \) appears to be distal to \( inl \).

\( fpr-5 \) is on linkage group I. Two crosses of \( fpr-5 \) to \( al-2 \) were analyzed, with 28% recombination in one cross (total of 60 random spores tested; 87% germination) and 22.5% recombination (80 spores; 96% germination). Segregation of a third marker (\( arg-6 \)) indicated that \( fpr-5 \) is proximal to \( al-2 \).

\( fpr-3 \) has normal amino acid uptake through both System I and System II. (Systems defined by Pall (1969 Biochim. Biophys. Acta 173: 113)). Amino acid uptake of \( fpr-4 \) and \( fpr-5 \) has not been tested.

Table 1. Growth response of \( fpr \) mutants

<table>
<thead>
<tr>
<th></th>
<th>Minimal</th>
<th>indole</th>
<th>indole</th>
<th>FPA</th>
<th>4MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>wild type</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>mtr (10d)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>( fpr-1 )</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>( fpr-3 )</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>0</td>
</tr>
<tr>
<td>( fpr-4 )</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>( fpr-5 )</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

All growth tests were performed on Vogel's Medium N agar with 1.5% sorbose, 0.1% glycerol and 0.1% glucose. The concentration of FPA was 10 \( \mu \)g/ml; indole was 50 \( \mu \)g/ml and 4-methyltryptophan (4MT) was 60 \( \mu \)g/ml. Good growth is scored +; poor growth −; no growth 0.

We wish to correct an error that was made in reporting the crosses used to study \( ser-5 \) (JBM-9), described in Maxwell et al. 1974 NN #21.

It was incorrectly stated that the crosses used were: Stock \( A; se \) (JBM-9); cot-l (C102d) was crossed to FGSC \( #190; a; se \) (5801), \( trp-1 \) (10575) and to FGSC \( #116; a; ser-1 \) (H605).

The correct description of the crosses is: A sexual reisolate of \( se \) (JBM-9) of genotype \( a; se \) (JBM-9); cot-l (C102d) was crossed to FGSC \( #190; A; se \) (5801), \( trp-1 \) (10575) and to FGSC \( #116; A; ser-1 \) (H605).

The source of the sexual reisolate of \( ser \) (JBM-9) was a cross of the original mutant to FGSC \( #333; a; cot-1 \) (C102d); \( inl \) (37401); \( y10 \) (Y30539y); \( mt \) (C86).

Maxwell, J.B., F. Kline and R.S. Bengtson. Correction to note on linkage data for new \( ser \) mutants in NN #21.

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