Lipidated brartemicin adjuvant, C18Brar, is a promising $\alpha,\alpha'$-trehalose 6,6'glycolipid for use in ovine pneumonia vaccines

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\(^1\)H and \(^{13}\)C NMR Spectra (overleaf):

2,2',3,3',4,4'-Hexa-O-trimethylsilyl-6,6'-di-(4-octadecyloxy-benzoyl)-\(\alpha,\alpha'\)-d-trehalose (10)

6,6'-Di-(4-octadecyloxy-benzoyl)-\(\alpha,\alpha'\)-d-trehalose (C18Brar, 3)
2,2',3,3',4,4'-Hexa-O-trimethylsilyl-6,6'-di-(4-octadecyloxy-benzoyl)-α,α'-ᴅ-trehalose

$^1$H NMR (500 MHz, CDCl$_3$)
2,2',3,3',4,4'-Hexa-O-trimethylsilyl-6,6'-di-(4-octadecyloxy-benzoyl)-α,α'-d-trehalose

$^{13}$C NMR (125 MHz, CDCl$_3$)
6,6'-Di(4-octadecyloxy-benzoyl)-c,c'-o-trehalose (C18Brar, 3)

$^1$H NMR (500 MHz, $d_6$-pyridine)
6,6'-Di-(4-octadecyloxy-benzoyl)-α,α'-trehalose (C18Brar, 3)

$^{13}$C NMR (125 MHz, d$_2$-pyridine)
## Ovine pneumonia vaccination studies

### Table 1. Vaccination site reactions using different doses of C18Brar (3)

<table>
<thead>
<tr>
<th>Group</th>
<th>Vaccine/adjuvant</th>
<th>Proportion of animals with vaccination site reaction (Score 1 [or 2])</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1st vaccination site</td>
</tr>
<tr>
<td>1</td>
<td>PBS</td>
<td>1/14 [0/14]</td>
</tr>
<tr>
<td>2</td>
<td>Quil-A</td>
<td>7/14 [1/14]</td>
</tr>
<tr>
<td>4</td>
<td>C18Brar (3.75 mg)</td>
<td>7/14 [0/14]</td>
</tr>
<tr>
<td>5</td>
<td>C18Brar (1.5 mg)</td>
<td>9/14 [0/14]</td>
</tr>
<tr>
<td>6</td>
<td>C18Brar (0.5 mg)</td>
<td>8/14 [1/14]</td>
</tr>
</tbody>
</table>

Score 1: Raised oedema with well-defined edging and ≥ 1 cm height, < 6 cm diameter

Score 2: Moderate oedema and raised > 1 cm height and ≥ 6 cm diameter