Product Name: Nebivolol hydrochloride
Catalog No.: 3517  Batch No.: 1
CAS Number: 152520-56-4
IUPAC Name: \((\pm)-[2R^*(1S^*5S^*)(5^*)]-\alpha,\alpha'-[\text{iminobis(methylene)}\text{bis}(6\text{-fluoro-3,4\text{-dihydro-2H-1-benzopyran-2-methanol})}\]

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \(\text{C}_{22}\text{H}_{25}\text{F}_{2}\text{NO}_{4}\cdot\text{HCl}\)
Batch Molecular Weight: 441.9
Physical Appearance: White solid
Solubility: DMSO to 100 mM
ethanol to 10 mM
Storage: Desiccate at RT

2. ANALYTICAL DATA

HPLC: Shows 99.5% purity
\(^1\)H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

<table>
<thead>
<tr>
<th></th>
<th>Carbon</th>
<th>Hydrogen</th>
<th>Nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical</td>
<td>59.8</td>
<td>5.93</td>
<td>3.17</td>
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<tr>
<td>Found</td>
<td>59.63</td>
<td>5.86</td>
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</tbody>
</table>
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Description:
Highly selective \(\beta_1\)-adrenoceptor antagonist (\(K_i\) values are 0.88, 20, 44, 700, 1160, 2400 and 4000 nM at \(\beta_1\), 5-HT\(_1\A\), \(\beta_2\), 5-HT\(_2\), \(\alpha_1\), H\(_1\) and D\(_2\) receptors respectively). Induces vasodilation via a nitric oxide- and cGMP-dependent mechanism (EC\(_{50}\) = 11.36 \(\mu\)M in renal arteries) and displays antihypertensive activity in vivo. GRK/\(\beta\) -arrestin biased agonist at the \(\beta_2\) adrenoceptor.

Physical and Chemical Properties:
- Batch Molecular Formula: \(C_{22}H_{25}F_2NO_4\cdot HCl\)
- Batch Molecular Weight: 441.9
- Physical Appearance: White solid

Minimum Purity: >98%

Storage: Desiccate at RT

Solubility & Usage Info:
- DMSO to 100 mM
- ethanol to 10 mM

Stability and Solubility Advice:
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:
- SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.
- SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References: