Dabigatran

Cat. No.: HY-10163  
CAS No.: 211914-51-1  
Molecular Formula: C₂₅H₂₅N₇O₃  
Molecular Weight: 471.51  
Target: Thrombin  
Pathway: Metabolic Enzyme/Protease  
Storage: Powder  
        -20°C  3 years  
        4°C  2 years  
        In solvent  
        -80°C  6 months  
        -20°C  1 month

SOLVENT & SOLUBILITY

In Vitro  
0.1 M HCL: 12.5 mg/mL (26.51 mM; Need ultrasonic)  
H₂O: < 0.1 mg/mL (insoluble)  
DMSO: < 1 mg/mL (insoluble or slightly soluble)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td></td>
<td>2.1208 mL</td>
<td>10.6042 mL</td>
<td>21.2085 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.4242 mL</td>
<td>2.1208 mL</td>
<td>4.2417 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.2121 mL</td>
<td>1.0604 mL</td>
<td>2.1208 mL</td>
<td></td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description  
Dabigatran (BIBR 953), an oral anticoagulant, is a reversible, potent, competitive direct thrombin inhibitor (Kᵢ=4.5 nM). Dabigatran (BIBR 953) also inhibits thrombin-induced platelet aggregation (IC₅₀=10 nM)[1][2].

IC₅₀ & Target  
Ki: 4.5 nM (thrombin)[1]

In Vitro  
Dabigatran (BIBR 953) shows concentration-dependent anticoagulant effects in various species in vitro, doubling the activated partial thromboplastin time (aPTT), prothrombin time (PT) and ecarin clotting time (ECT) in human platelet-poor plasma at concentrations of 0.23, 0.83 and 0.18 μM, respectively[4].

In Vivo  
Dabigatran (0.01-0.1 mg/kg; i.v.) inhibits clot formation with an ED₅₀ of 0.033 mg/kg in Wessler model[3].
Animal Model: Male rats (Wessler model)[3]
Dosage: 0.01, 0.03, 0.05 and 0.1 mg/kg
Administration: Intravenous injection
Result: Inhibited clot formation with an ED$_{50}$ of 0.033 mg/kg.

CUSTOMER VALIDATION


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REFERENCES

