**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 for 3 years, 4°C for 2 years  
- In solvent: -80°C for 6 months, -20°C for 1 month

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

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

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**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[1].  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**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].  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
### 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\textsubscript{50} of 0.033 mg/kg.

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**REFERENCES**


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Caution: Product has not been fully validated for medical applications. For research use only.

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