

Product Datasheet

CHIR-090 (orb1223063)

Catalog Number	orb1223063
Category	Small Molecules
Description	CHIR-090 is a very potent and selective LpxC inhibitor. CHIR-090 has excellent antibiotic activity against <i>Pseudomonas aeruginosa</i> and <i>Escherichia coli</i>. CHIR-090 is also a two-step slow, tight-binding inhibitor of <i>E. coli</i> LpxC with $K_i = 4.0$ nM, $K_i^* = 0.5$ nM, $k_5 = 1.9$ min⁻¹, and $k_6 = 0.18$ min⁻¹. CHIR-090 at low nanomolar levels inhibits LpxC orthologues from diverse Gram-negative pathogens, including <i>P. aeruginosa</i>, <i>Neisseria meningitidis</i>, and <i>Helicobacter pylori</i>. In contrast, CHIR-090 is a relatively weak competitive and conventional inhibitor (lacking slow, tight-binding kinetics) of LpxC from <i>Rhizobium leguminosarum</i> ($K_i = 340$ nM), a Gram-negative plant endosymbiont that is resistant to this compound. CHIR-090 is an excellent lead for the further development of new antibiotics targeting the lipid A pathway.
Target	<i>Escherichia coli</i> LpxC
Purity	>98% (HPLC)
MW	437.19
Target Areas	<i>Escherichia coli</i> LpxC
Solubility (25°C)	DMSO : ≥ 30 mg/mL; 68.57 mM
CAS Number	728865-23-4
Formula	C ₂₄ H ₂₇ N ₃ O ₅
SMILES	<chem>ONC(=O)[C@@H](NC(=O)c1ccc(cc1)C#Cc1ccc(cc1)CN1CCOCC1)[C@@H](C)O</chem>
Chemical Name	N-[(2S,3R)-3-hydroxy-1-(hydroxyamino)-1-oxobutan-2-yl]-4-[2-[4-(morpholin-4-ylmethyl)phenyl]ethynyl]benzamide

Biorbyt Ltd.

7 Signet Court, Swann Road
Cambridge
CB5 8LA
United Kingdom

Email: info@biorbyt.com, support@biorbyt.com
Phone: +44 (0)1223 859353 | Fax: +1 (415) 651-8558

Biorbyt LLC

68 TW Alexander Drive
Research Triangle Park
Durham
NC 27713-2847
United States

Email: info@biorbyt.com, support@biorbyt.com
Phone: +1 (415) 906-5211 | Fax: +1 (415) 651-8558

Storage	Storage temperature: -20°C. Stability: $\geq$ 2 years
Note	For research use only
Expiration Date	12 months from date of receipt.

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7 Signet Court, Swann Road
Cambridge
CB5 8LA
United Kingdom

Email: info@biorbyt.com, support@biorbyt.com
Phone: [+44 \(0\)1223 859353](tel:+44(0)1223859353) | Fax: [+1 \(415\) 651-8558](tel:+1(415)651-8558)

Biorbyt LLC

68 TW Alexander Drive
Research Triangle Park
Durham
NC 27713-2847
United States

Email: info@biorbyt.com, support@biorbyt.com
Phone: [+1 \(415\) 906-5211](tel:+1(415)906-5211) | Fax: [+1 \(415\) 651-8558](tel:+1(415)651-8558)