

## TARGET PRODUCT PROFILE: ANTI-SECRETORY DRUGS FOR TREATMENT OF ACUTE WATERY DIARRHEA

	<b>IDEAL</b>	<b>MINIMUM ESSENTIAL</b>
<b>Global Health Impact</b>	<ul style="list-style-type: none"> <li>Addresses ~80% of 1.8-2.0M diarrhea-related annual deaths worldwide (760,000 cases by ETEC &amp; cholera; ~1M cases by rotavirus)</li> </ul>	<ul style="list-style-type: none"> <li>Addresses ~40% of 1.8-2.0M diarrhea-related annual deaths worldwide (760,000 cases by ETEC &amp; cholera)</li> </ul>
<b>Indications and Usage</b>	<ul style="list-style-type: none"> <li>Primary: Treatment of moderate to severe acute secretory diarrhea (i.e., ETEC, cholera, rotavirus) in children (<math>\geq 1</math> month) and adults</li> <li>Secondary: Treatment of traveler's diarrhea</li> </ul>	<ul style="list-style-type: none"> <li>Primary: Treatment of moderate acute secretory diarrhea (i.e., ETEC, cholera) in children (<math>\geq 6</math> months) and adults</li> </ul>
<b>Target population</b>	<ul style="list-style-type: none"> <li>Pediatrics and adults in developing countries</li> </ul>	<ul style="list-style-type: none"> <li>Pediatrics in developing countries</li> </ul>
<b>Mechanism</b>	<ul style="list-style-type: none"> <li>Host targeted mechanisms (e.g., CFTR chloride channel)</li> </ul>	<ul style="list-style-type: none"> <li>Host targeted mechanisms (e.g., CFTR chloride channel)</li> </ul>
<b>Route of administration</b>	<ul style="list-style-type: none"> <li>Primary: Oral as an adjunct to ORT/ORS</li> <li>Secondary: parenteral as an adjunct to ORT/ORS in hospital settings</li> </ul>	<ul style="list-style-type: none"> <li>Primary: Oral as an adjunct to ORT/ORS</li> </ul>
<b>Dose schedule</b>	<ul style="list-style-type: none"> <li>Non-absorbed drug: Once daily for 2 days</li> <li>Absorbed drug: 1 time daily for 2 days</li> </ul>	<ul style="list-style-type: none"> <li>3 times daily for 3 days</li> </ul>
<b>Efficacy</b>	<ul style="list-style-type: none"> <li>Noticeable reduction (<math>\geq 30\%</math>) in stool output within 24 hours and/or total duration of diarrhea</li> <li>Lower rate of ORT/ORS administration or unscheduled IV rehydration therapy</li> </ul>	<ul style="list-style-type: none"> <li>Noticeable reduction (<math>\geq 30\%</math>) in stool output within 24 hours and/or total duration of diarrhea</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>Safe in pediatrics <math>\geq 1</math> month</li> <li>No constipation</li> <li>No cardiovascular effects</li> <li>No CNS effects</li> <li>No abuse potential</li> <li>No increase in vomiting</li> <li>No teratogenicity or adverse effects on child development</li> <li>High safety margin regarding overdose</li> </ul>	<ul style="list-style-type: none"> <li>Safe in pediatrics <math>\geq 6</math> months</li> <li>Limited constipation</li> <li>Minimal cardiovascular effects</li> <li>Minimal CNS effects</li> <li>No abuse potential</li> <li>No increase in vomiting</li> <li>No teratogenicity or adverse effects on child development</li> <li>Acceptable safety margin regarding overdose</li> </ul>
<b>Clinical Pharmacology</b>	<ul style="list-style-type: none"> <li>Onset of action within 6 hours</li> <li>Sufficient target coverage at the site of action</li> <li>No clinically relevant food effects</li> <li>No clinically relevant drug interactions with 'standard of care' or concomitant medications</li> <li>No age/gender/race/pregnancy restrictions</li> </ul>	<ul style="list-style-type: none"> <li>Onset of action within 12 hours</li> <li>Sufficient target coverage at the site of action</li> <li>No clinically relevant food effects</li> <li>No clinically relevant drug interactions with 'standard of care' or concomitant medications</li> <li>No age/gender/race/pregnancy restrictions</li> </ul>
<b>Price per COT</b>	<ul style="list-style-type: none"> <li><math>\leq \\$0.30</math> per course of therapy</li> <li>Low manufacturing Cost of Goods Sold</li> </ul>	<ul style="list-style-type: none"> <li><math>\leq \\$1.00</math> per course of therapy (subsidy may be necessary to achieve retail price)</li> <li>Low manufacturing Cost of Goods Sold</li> </ul>
<b>Product presentation and storage</b>	<ul style="list-style-type: none"> <li>Stable for <math>\geq 2</math> years in climate zones 3 and 4 (shelf life equivalent to ORS/zinc)</li> <li>Pediatric formulation/taste masking, easily administered with ORT/ORS</li> </ul>	<ul style="list-style-type: none"> <li>Stable for <math>\geq 2</math> years in climate zones 3 and 4 (shelf life equivalent to ORS/zinc)</li> <li>Pediatric formulation/taste masking, easily administered with ORT/ORS</li> </ul>