The present study examines the activity of AZD2563 and other comparator agents against a large collection of Gram-positive cocci, streptococci and enterococci originating from medical centers in North America. Activity of AZD2563 and Comparator Agents Tested Against 6,444 Staphylococci, Streptococci and Enterococci (North America, 2001 - 2002) TR FRITSCH, TR ANDEREGG, RN JONES The JONES Group/JMI Laboratories, North Liberty, IA

**MATERIALS & METHODS**

**Specimen Collection**
A total of 6,444 strains of Gram-positive cocci originating from 34 medical centers in North America (2001-2002) were included in the study and were recovered consecutively from patients hospitalized with infections, pneumonia, skin abscesses, osteomyelitis, septic arthritis, meningitis, and urinary tract infections. Isolates were identified by the submitting laboratory and confirmed by the monitoring facility (The JONES Group/JMI Laboratories). The collection consisted of: S. aureus (6,367 strains; 45.4% oxacillin-resistant), coagulase-negative staphylococci (CoNS; 446, 16.5% oxacillin-resistant), S. pneumoniae (SPN; 490, 10.2% penicillin-resistant non-susceptible [PNS]), other streptococci (SRT; 970, 31.1% penicillin-resistant non-susceptible [PNS]), and enterococci (ENT; 875, 31.1% vancomycin-resistant [VRC]). The strains were tested against AZD, levofloxacin (LZD), quinupristin/dalfopristin (QDR), vancomycin (VCN) and >20 agents by the NCCLS broth microdilution method (M45-A3).

**RESULTS**

AZD was highly active against all GP species tested with MIC<sub>90</sub> results ranging from 0.06 to 8 µg/ml. The distribution of MIC<sub>90</sub> values were very similar to those of linezolid, with the exception of a two-fold lower MIC<sub>90</sub> for S. pneumoniae and -resistant enterococci. They also demonstrate activity against less commonly isolated organisms such as Bacillus species.

- The Gram-positive pathogens most frequently isolated in North America during this study (2001-2002) were: S. aureus (6,367 isolates), 20% CoNS (446 isolates), 13% S. pneumoniae (490 isolates); 15% oxacillin-resistant (MIC<sub>90</sub>, 1.0 µg/ml), and penicillin-resistant non-susceptible (MIC<sub>90</sub> 2 µg/ml). Quality control strains utilized included S. aureus ATCC 29213, Streplococcus pneumoniae ATCC 49619 and Enterococcus faecalis ATCC 29212.

**INTRODUCTION**
The resistance profile of Gram-positive organisms has been undergoing a profound shift during the past 10 years, necessitating the identification and clinical development of novel compounds such as the oxazolidinones, streptogramins, fluoroquinolones, glycopeptides and oxacillin. Aztreonam is the only beta-lactam that has established a novel role in selective therapy; it joins linezolid as a premier once daily and gram-positive resistant agent with activity targeting a broad range of Gram-positive pathogens. AZD2563 may have some potency and full advantages over previously studied oxazolidinones compounds. The oxazolidinone inhibit protein synthesis by preventing the formation of the bacterial 50S ribosomal subunit. We evaluated the contemporary (2001 - 2002) in vitro activity of AZD and comparator agents against a collection of 6,444 GP strain originating from medical centers in North America.

**METHODS**

**Results:**

- AZD was highly active against all GP species tested with MIC<sub>90</sub> results ranging from 0.06 to 8 µg/ml. The distribution of MIC<sub>90</sub> values were very similar to those of linezolid, with the exception of a two-fold lower MIC<sub>90</sub> for S. pneumoniae and -resistant enterococci. They also demonstrate activity against less commonly isolated organisms such as Bacillus species.

<table>
<thead>
<tr>
<th>Organism</th>
<th>MIC&lt;sub&gt;90&lt;/sub&gt; (µg/ml)</th>
<th>MIC&lt;sub&gt;90&lt;/sub&gt; (µg/ml)</th>
</tr>
</thead>
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<tr>
<td>S. aureus</td>
<td>1</td>
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<tr>
<td>CoNS</td>
<td>1</td>
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</tr>
<tr>
<td>S. pneumoniae</td>
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</tr>
<tr>
<td>Enterococcus</td>
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<td>E. coli</td>
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</tr>
</tbody>
</table>

- **CONCLUSIONS**
AZD2563 was highly active against all Gram-positive species tested with MIC<sub>90</sub> results ranging from 0.06 to 8 µg/ml. Distribution of MIC values was very similar to those of linezolid, with the exception of a two-fold lower MIC for S. aureus (MIC<sub>90</sub>, 1.0 µg/ml), and penicillin-resistant non-susceptible (MIC<sub>90</sub> 2 µg/ml). AZD2563 was the most active compound of those tested against vancomycin-susceptible and -resistant enterococci (MIC<sub>90</sub>, 2 µg/ml).

**SELECTED REFERENCES**


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