S.649266 MIC Quality Control Range in Iron-depleted cation-adjusted Mueller-Hinton Broth Using a Multi-laboratory Study Design

Background: This study was performed to define the MIC quality control (QC) range for S.649266 in iron-depleted cation-adjusted Mueller-Hinton broth. A4 guidelines recommend iron depletion before testing, but MIC QC ranges are limited. Iron depletion conditions and mechanisms for broth microdilution testing are not standardized. To address this, we performed an in vitro study to establish MIC QC ranges for S.649266 in iron-depleted cation-adjusted Mueller-Hinton broth.

Methods: A multi-laboratory study design followed CLSI M32-A3 guidelines. Baseline broth microdilution QC results were reviewed. Three broth media lots produced by Difco Laboratories (Detroit, MI), ADH Laboratories (Charlotte, NC), and Becton Dickinson (Franklin Lakes, NJ) were used to prepare broth microdilution panels. Iron concentrations remained below the limit of detection after cation supplementation with Ca, Mg, and Zn. 

Results: CLSI published QC range.

Conclusions: This study established broth microdilution CLSI (Tier 2) quality control (QC) ranges for S.649266 and iron-depleted cation-adjusted Mueller-Hinton broth. These approved MIC QC ranges for S.649266 will facilitate the regulatory review process for this agent in various GN bacteria including iron transport mechanisms in Gram-negative bacteria. S.649266 exhibits potent efficacy against various GN bacteria including carbapenem-resistant enterobacteriaceae.