**Product Name:** Mupirocin  
**Product Number:** M022  
**CAS Number:** 12650-69-0  
**Molecular Formula:** C\textsubscript{26}H\textsubscript{44}O\textsubscript{9}  
**Molecular Weight:** 500.62  
**Form:** Powder  
**Appearance:** Almost white or off-white powder  
**Source:** Pseudomonas Fluorescens.  
**Water Content (Karl Fischer):** ≤ 1.0%  
**pH:** 3.5-4.5  
**Optical Rotation:** -17° to -21°  
**Storage Conditions:** 2-8 °C  
**Description:** Mupirocin is a carboxylic acid bacteriostatic/bactericidal antibiotic.  
TOKU-E offers three forms of mupirocin: mupirocin (M022), mupirocin lithium salt (M023), and mupirocin calcium. Mupirocin is sparingly soluble in aqueous solution at 26.5 µg/mL. Mupirocin lithium is freely soluble at 10 mg/mL.  
**Mechanism of Action:** Mupirocin inhibits protein synthesis by binding to isoleucyl-tRNA synthetase, an enzyme which conjugates the amino acid isoleucine to its corresponding tRNA.  
**Spectrum:** Mupirocin is commonly used to target gram positive bacteria especially Methicillin resistant *Staphylococcus aureus* (MRSA).  
**Microbiology Applications** Mupirocin is commonly used in clinical *in vitro* microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram positive *Staphylococcus* microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include:  
- Methicillin resistant *Staphylococcus aureus* 0.25 µg/mL – 0.39 µg/mL  
- For a complete list of mupirocin MIC values, click here.  