

**INVESTIGATION OF A INFECTION IMAGING
RADIOPHARMACEUTICAL: LABELING OF
LINEZOLID WITH I-131**

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Linezolid ((S)-N-[[3-[3-fluoro-4-(4-morpholinyl)phenyl]-2-oxo-5-oxazolidinyl]methyl]-

acetamide, Zyvox) is the first of a new class of antibiotics, the oxazolidinones. Linezolid is approved in the United States and other countries worldwide for the treatment of Gram-positive bacterial infections caused by multi-resistant bacteria including *Streptococcus* and methicillin-resistant *Staphylococcus aureus* (MRSA).

The aim of this study is to label Linezolid with Iodine-131 for imaging infections due to *Staphylococcus aureus*. Linezolid was labeled with I-131 by using iodogen method. Radiochemical purity of radiolabeled antibiotic was determined by Thin Layer Radio Chromatography (TLRC). The labeling yield was found to be over 85 %.

In conclusion, it's thought that ^{131}I -Linezolid prepared with high yield would be able to localize in bacterial infection induced by *S. aureus* in rat. Therefore, animal studies are going to be performed on rats with infection.