Antibiotic therapy is a useful method to control *Staphylococcus*. But the rapid evolution of antibiotic resistant *S. aureus* (ex. MRSA), has been reported. Therefore, new strategies are required for controlling MRSA and multiresistant staphylococci. In this study, the antimicrobial activities against antibiotic resistant 20 *S. aureus* from 15 isolates of coagulase negative staphylococci (CNS) isolated in vegetables were characterized. CNS isolates were identified as *S. xylosus*, pasteuri, and epidermidis. Among the *S. aureus* using indicator strains, 85% were penicillin-resistant and 45% possessed resistance to at least six drugs including penicillin, gentamycin, cephalothin, imipenem, erythromycin, and tetracycline. Antimicrobial activities of *S. xylosus* and *S. pasteuri* against various antibiotic resistant *S. aureus* were strong. Therefore, the mechanisms of activities are thought to be different from conventional antibiotics. *S. xylosus* and *S. pasteuri* showed antimicrobial activity against each other and Listeria monocytogenes. Any isolates didn’t have bacteriocin genes except the nukacin in *S. xylosus* and *S. pasteuri*. However, nukM encoding a post-translational modification enzyme in the nukacin gene cluster wasn’t detected in *S. pasteuri* isolates. Our results showed that *S. aureus* had various antimicrobial resistance patterns and were susceptible to bacteriocin produced by *S. pasteuri*, which could be useful as an alternative method to control foodborne pathogens. Partially purified bacteriocin exhibited a band on SDS-PAGE with 13kDa. Bacteriocin of *S. pasteuri* RSP-1 is heat stable, sensitive to proteolytic enzymes and stable between pH1~pH10.