

Bacterial pathogens are capable of acquiring various mechanisms, including expressing multidrug efflux pumps and strengthening bacterial cell walls, to mediate resistance to a broad spectrum of antimicrobial agents and threaten the lives of vulnerable patients. These pathogens use membrane proteins, belonging to the resistance-nodulation-cell division (RND) superfamily, to transform themselves to “superbugs” that are renitent even to the last resorted antibiotics. Our cumulative data indicate that these RND membrane proteins area able to utilize different oligomerization states to achieve particular activities, including forming multidrug resistance (MDR) pump and cell wall remodeling machinery, to ensure bacterial survival.