

University of California, Davis

*QCM-Aptamer Based Point of Care Rapid Detection System+HS7 and Software*

This proposal addresses the need for a rapid point of care screening tool for the detection of methicillin-resistant *Staphylococcus aureus* (“MRSA”) in clinical settings. This could be used for patient admittance to a clinic, screening in the clinic for nosocomial infections, and in long term care facilities. The technology is a quartz crystal microbalance (“QCM”) based system with novel analyte detection coatings of high selectivity and sensitivity. The system consists of a disposable test cartridge plugged into a small box interfacing with either a laptop computer or tablet. The system has a small footprint and could be used bedside as well as a clinical lab. Simple preparation of the sample is required and a controlled amount of solution is aliquoted into the well of the test cartridge. The results are read within 30 seconds and reported on the computer/tablet screen. Simultaneously the results are transmitted to a database containing the patient’s clinical record and to an epidemiological database for further analysis. No calibration or controls are required as the test cartridge lot’s performance and calibration data is stored “in the cloud”.