**ReadMe File to support datasets:**

**Project title:** Sample-to-answer microfluidic device towards the point-of-need detection of *Staphylococcus aureus* enterotoxin genes in ruminant milk

This readme file aims to provide a guide to use these data:

* 'Figure 2.xlsx' contains the raw data associated with Figure 2 as 4 separate sheets for amplification (2 sheets) and melt (2sheets) curves of specificity evaluation of developed Loop mediated isothermal (LAMP) assay for detection of the two targets *Staphylococcus aureus* enterotoxin A and B genes (SEA and SEB). Where the columns represent the amplification times in minutes and fluorescent signal for different conditions and replicates.
* 'Figure 3.xlsx' contains the raw data associated with Figure 3 as 3 separate sheets for each trial for evaluation of sensitivity of developed LAMP assay with differ dilution for the spiked cow milk samples, where the columns represent the amplification times in minutes and fluorescent signal for different conditions and replicates.
* 'Figure 4A.xlsx' contains the raw data associated with Figure 4A as 6 separate sheets for each trial for evaluation of sensitivity of developed LAMP assay with heated (3 sheets) and non-heated (3 sheets) diluted spiked cow and goat milk samples, where the columns represent the amplification times in minutes and fluorescent signal for different conditions and replicates.
* 'Figure 4C and Figure S9-SEB-044.xlsx' contains the raw data associated with Figure 4C and Figure S9 as 6 separate sheets for each trial for evaluation of sensitivity of developed LAMP assay with heated (3 sheets) and non-heated (3 sheets) diluted spiked cow and goat milk samples with cells collected from overnight culture of *S. aureus* DMSZ 19044 reference strain, where the columns represent the amplification times in minutes and fluorescent signal for different conditions and replicates.
* 'Figure 4C and Figure S9-SEB-652.xlsx' contains the raw data associated with Figure 4C and Figure S9 as 6 separate sheets for each trial for evaluation of sensitivity of developed LAMP assay with heated (3 sheets) and non-heated (3 sheets) diluted spiked cow and goat milk samples with cells collected from overnight culture of *S. aureus* DMSZ 20652 reference strain, where the columns represent the amplification times in minutes and fluorescent signal for different conditions and replicates.
* 'Figure 4C and Figure S9-SEB-041.xlsx' contains the raw data associated with Figure 4C and Figure S9 as 6 separate sheets for each trial for evaluation of sensitivity of developed LAMP assay with heated (3 sheets) and non-heated (3 sheets) diluted spiked cow and goat milk samples with cells collected from overnight culture of *S. aureus* DMSZ 19041 reference strain, where the columns represent the amplification times in minutes and fluorescent signal for different conditions and replicates.
* 'Figure 4D-Run for 60 min.xlsx' contains the raw data associated with Figure 4D, with 3 separate sheets for evaluation of sensitivity of developed LAMP assay for detection of SEA and SEB gens as single plex assay and a multiplex assay after running assay for 60 minutes, where the columns represent the number of samples, concentration and cycle threshold for different targets and replicates.
* 'Figure S6.xlsx' contains the raw data associated with Figure S6, for evaluation of sensitivity of developed LAMP assay for detection of SEA and SEB gens in diluted DNA extract of overnight culture of *S. aureus* reference strains, where the columns represent the amplification times in minutes and fluorescent signal for different targets and replicates.
* 'Figure S7.xlsx' contains the raw data associated with Figure S7, for evaluation of sensitivity of developed LAMP assay for detection of SEA and SEB gens in DNA extract of each dilution of serially diluted overnight culture of *S. aureus* reference strains, where the columns represent the amplification times in minutes and fluorescent signal for different targets and replicates.
* 'Figure S8.xlsx' contains the raw data associated with Figure S8 for one trial for evaluation of sensitivity of developed LAMP assay with differ dilution for the spiked cow milk samples, where the columns represent the amplification times in minutes and fluorescent signal for different conditions and replicates.