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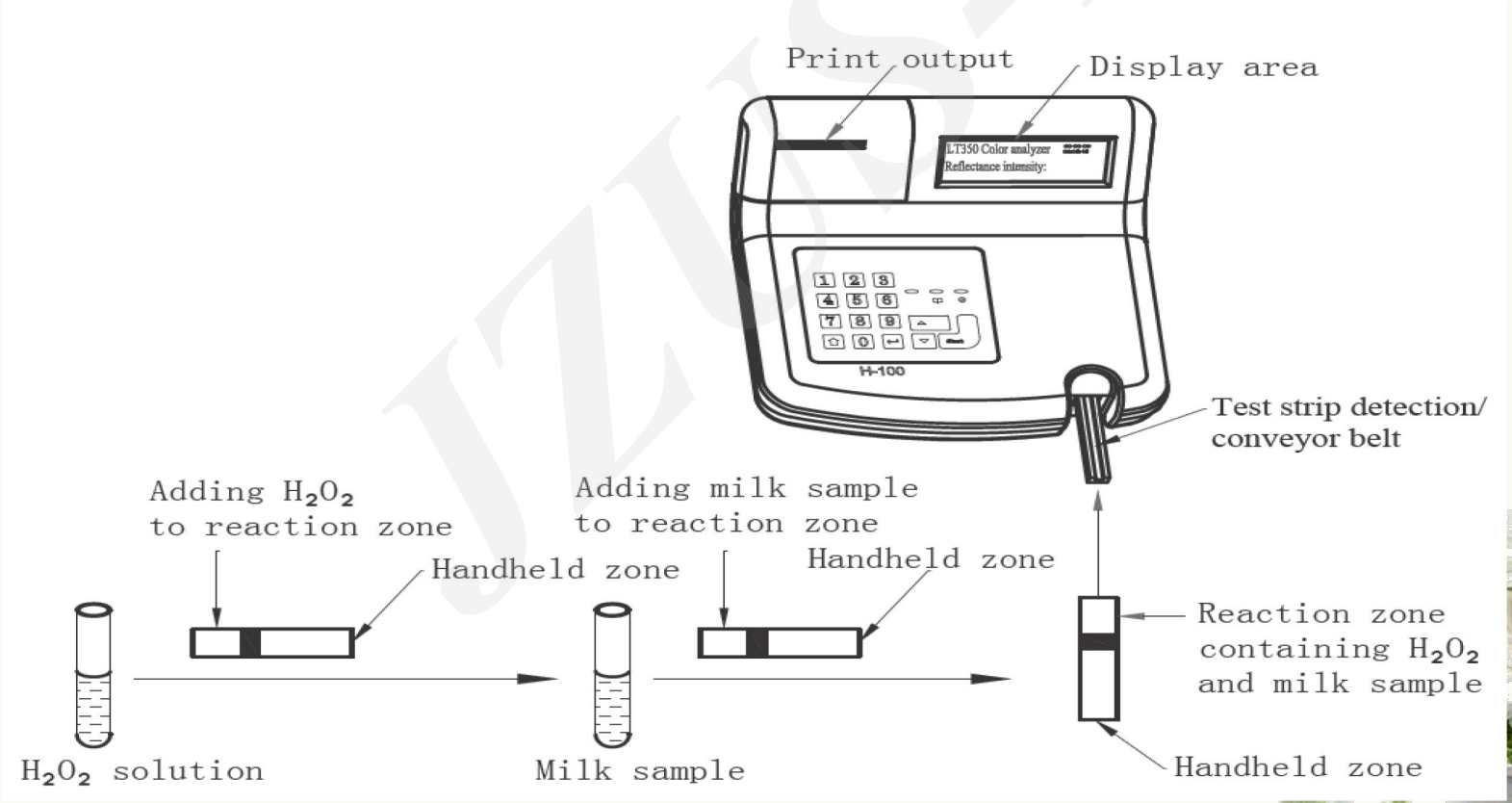
Development of a test strip for rapid detection of lactoperoxidase in raw milk

Key words: Lactoperoxidase, Test strip, Rapid detection, Raw milk, TMB

Innovation points

- **The first time to use test strip for lactoperoxidase detection.**
- **Qualitative LP analysis was achieved within a few seconds by observing a color change of the test strip. Quantitative LP analysis could be accomplished using the test strip within 3 min by a color analyzer.**



Research content

Part 1-Optimization of preparation of the test strip for LP detection

- pH of the buffer solution
- TMB concentration
- H_2O_2 concentration
- Surfactant selection

Part 2-Evaluation of LP detection by the test strip

- The calibration curve
- Reproducibility
- The lowest LP content detected
- Accuracy

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Important results

- **Fig. 6 -Typical standard curves for LP assay with the test strip**
- **Table 1 -Reproducibility of LP detection in five milk samples by test strip method**
- **Fig. 7 -The lowest LP concentration in milk samples by the test strip detection**
- **Fig. 8 -Correlation between the test strip method for quantifying lactoperoxidase and the TMB method**

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