

DEPSOR-V

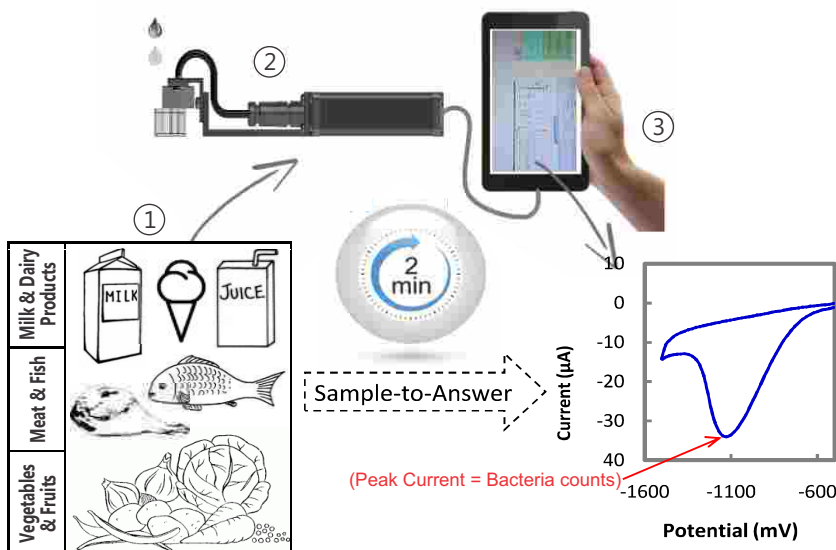
for instant enumeration of live microbes in food samples



- **Instant** electrochemical detection of TVC (total viable counts)
- **Reliable** detection limit (10^2 to 10^9 CFU/mL)
- **Affordable** (running cost <1 USD per sample)
- **Easy-to-detect** with user-friendly PC-software
- **Portable** & on-site analysis

The DEPSOR-V provide a portable, instant, and cost-effective way of electrochemical detection of live microbial load in food samples using the oxygen consumption activity of viable microbes. The DEPSOR is powered by our commercial electrochemical manufacturing technologies including disposable screen-printed electrode chips (DEP chips) and compact PC software-controlled potentiostat. The supplied software is user-friendly and offers the major electrochemical measuring techniques. These key features allows DEPSOR-V as the ideal tool for rapid and in-house electrochemical monitoring of foodborne pathogens in drinking and food samples with easy and thus is an extremely useful tool for good quality assurance.

3 simple operating steps to test TVC in food samples



- 1 Collect** : Extract microbes from sample (if solid food)
- 2 Apply** : Add 8 drops sample in measuring cell
- 3 Result** : Run KME software for CV analysis and TVC

DEPSOR-V Components & Specifications

1. MiniSTAT100 Potentiostat

- Potential range -2.000 ~ +2.000 V with a resolution of 2 mV
- Support 5 voltammetric techniques: CV, LSV, CA, DPV, SWV
- Ultra-light weight (65 g)
- Palm-sized (75×50×20 mm)
- USB powered (wireless/via Bluetooth, optional)



2. DEP chips envelop (60 DEP-chips SP-N type)

- Screen-printed disposable electrode
- Size 12.5 mm × 4 mm × t 0.3 (2.64 mm² area of working electrode)
- Mass productivity (60/sheet) and low-cost (<1 US\$)
- High quality (CV <5%)
- Easy-to-handle with long shelf-life



3. DEP chip holder

- 2-in-1 type (Dip-mode & Drop-mode)
- Low-volume sample (1 drop in Drop-mode, 500 μL in Dip-mode)
- Simple & easy measurement • Stable measurement



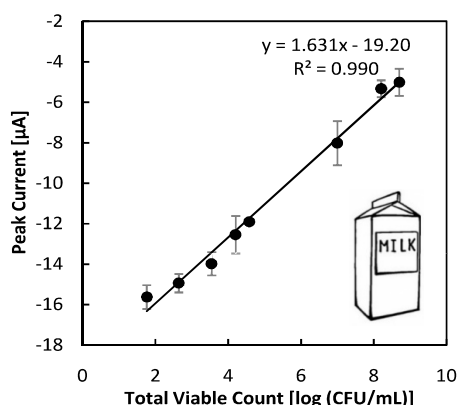
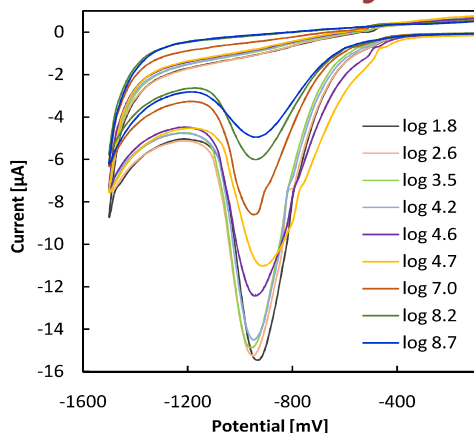
5. Sampling Kit (required for solid food sample only)

- | | | |
|--------------------|-------------------|------------|
| 1. Culture medium | 2. Membrane cover | |
| 3. Membrane holder | 4. Membrane | 5. Syringe |
| 6. Column | 7. DEP chip | 8. Saline |
| 9. Pin set | 10. Filter bag | |



- ## 4. Tablet with KME software for one-click electrochemical measurements (data acquisition to processing to analysis and export)

Sensitivity of instant detection of TVC in milk samples



Cyclic voltammograms (left) and calibration curve (right) in relationships between the electrocatalytic oxygen peak current obtained from cyclic voltammograms and the TVC obtained from standard plat count method. (*Ref.: Analytical Methods 2018, 10 (14), 1579-1664.)

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