PROTEIN FLOW

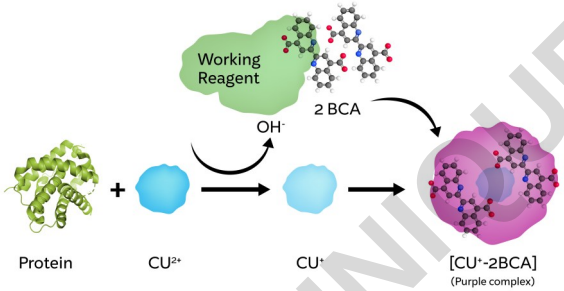
VERSION 5
CAT.NUMBER: SW1225

1. Description

Protein-FLOW is a single-use colorimetric assay that can detect with high sensitivity protein residues on surfaces. This product can be used to verify the efficiency of cleanliness and sanitation procedures for surfaces and other environments in a wide range of industries.

2. Principal of the assay

Proteins are found in many substances that could contaminate surfaces, such as food residues. In addition, they display critical role to allergic reactions and pathogens. As such, detecting protein residues provides a direct measure of cleaning effectiveness. During the monitoring process, the reagent (BCA/Cu^{2+}) reacts with residues collected from the swab, initially producing a green color. If protein residues are present, they will interact with the copper ions and BCA, causing the color to shift to purple.



Scheme 1. Protein detection mechanism.

3. Reagents provided

The Protein- Flow kit contains 25 ready to use test devices for 25 measurements.

Protein-Flow	SW1225
Foil containing 25 Protein-FLOW swabs	1pc
E-Manual	

4. Storage Instructions

The Protein-FLOW tests should be stored at temperatures between 2 - 25°C. The shelf life is 14 months when stored at recommended temperatures. Store in its packaging until use. Refer to expiration date on label.

5. Instructions for Use

- Allow ***Protein-FLOW*** surface test to equilibrate to room temperature (21-25 °C) before use (fig.1). *Do not use the test if you have just removed it from the fridge. If the device is activated by accident, do not use it.*
- Hold the test firmly and then rotate and unscrew the reaction tube below the green connector of Protein-FLOW test, swab thoroughly over a sampling area within a range of 100cm^2 (10cm x 10cm). Make sure the swab is rubbed in all possible direction on the surface (horizontal, back and forth vertical, and diagonal motions (fig.2)
- After swabbing, replace the swab back to tube.(fig.3)
- Hold the test vertically in your hand, activate it by breaking the inside mechanism by gently bending the bulb back and forth and squeeze until to expel all liquid into the tube (fig.4).
- Shake the test vigorously sideways for at least 5sec (fig.5).
- Wait 10 minutes at 20 to 25 °C, then compare the color of the reagent to the Protein -FLOW color chart on the tube label and record the result (fig.6).

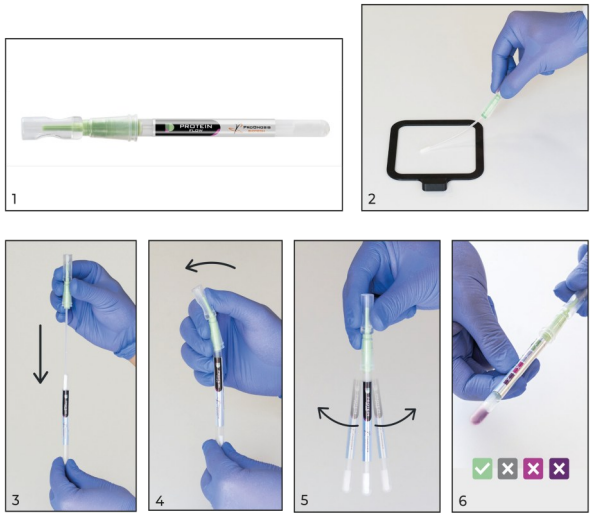
6. Precautions & Safety

6.1 Precautions related to the procedure

1. Disposable gloves should be worn during the experiment to avoid contamination.
2. Make sure that the fabric swab comes only in contact with the surface of subject to be tested.
3. The swabbing area in standard operating is 10cm x 10cm. For irregular surfaces, it's important to ensure that a continuous and consistent method is used for each test of each control point. The control points should be established taking into consideration of the special structure of individual objects.
4. If there is remaining liquid on the surface of subject to be tested, the test shall be conducted after drying the surface area to avoid diluting the reagent.

6.2 Health and safety precautions

1. The internal reagent of Protein-FLOW test is diluted and can be safely used for detection in food processing industry.
2. If standard lab operation procedures are strictly followed, the compositions of Protein-FLOW test will not be harmful for human health.
3. In case the internal reagent of Protein-FLOW test comes into contact with eyes or skin, please flush eyes or skin with plenty of water. Do not ingest, inhale, get in eyes , on skin, or on clothing. The material safety data (MSDS) can be provided on demand.
4. Dispose of this product after use, according to your country's health regulations



7. Interpretation of Results

The Protein-FLOW solution undergoes a color change based on the amount of protein residue present in the sample. Both the intensity of the color and the time required for the color change are used to assess protein contamination. Compare the resulting color of the solution to the color chart provided on the Protein-FLOW tube label to estimate surface cleanliness (fig.7). If the solution turns purple before 10 minutes, the test may be discontinued, as this indicates a positive result. Any visible color change indicates the presence of protein residue above the limit of detection (10 µg). The intensity of the color change provides a semi-quantitative indication of residue levels. A color reference guide illustrates the corresponding protein quantities (Fig 8).

Color	Result	Interpretation
Green	Pass	Clean
Grey	Caution	A small amount of residue is present
Light Purple	Fail	Not clean
Dark Purple	Fail	Not clean. High concentrations of proteins

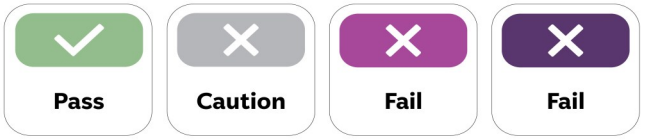


Figure 7. Color chart provided on the Protein-Flow tube label.



Figure 8. Concentration- based color gradient of Protein-FLOW.

DOMINIQUE DUTSCHER SA

www.prognosis-biotech.com
info@prognosis-biotech.com
PROGNOSIS BIOTECH