Sample Preparation Platform

Sample preparation is a crucial part of the entire processes of sample analysis and detection; for example, for specific biological samples, which need to be considered for possible changes in their biological activity, the process of the whole experiment is prevented from being affected by the preparation. Especially for some trace samples, the selection of an appropriate sample preparation method will achieve twice the result with half the effort.

Freeze Dry System

Drying is an essential part of the sample preparation process. Compared with other drying methods, after freeze-drying, the original biological, chemical and physical properties of the sample are basically unchanged, easy for long-term preservation. It can avoid the unrecoverable agglomeration of the particles caused by heating and drying, and is very suitable for treating biological products and preventing their deterioration due to high-temperature operation.

Target Preparation Device

The sample needs to be cut and polished before being examined by SEM, TEM and LM, which is often a very time-consuming and difficult process. Because in this process, the small size of the point of interest needs to be accurately located, Alfa Chemistry chooses Leica EM TXP for sample preparation, which can be accurate positioning of the target, less loss of the target area. In addition, it is also a highly

effective sample preparation tool for ion beam lapping and ultramicrotomy techniques.

Cryo-Ultramicrotome

TEM, SEM, AFM, and LM require the preparation of semi-thin and ultra-thin sectioning of biological and industrial samples. The use of cryo-ultramicrotome can quickly, reliably, and safely process frozen samples, to obtain accurate frozen sectioning, and to meet the requirements of high-quality sectioning. It is suitable for providing ultra-thin sectioning of various biological samples such as cells, tissues and bacteria, as well as ultra-thin sectioning of various materials such as polymer materials, rubber, and plastics.

Triple Ion Beam Milling System

Ion-beam cutting is suitable for all kinds of samples, especially for hard/soft composite, porous structure, brittleness and inhomogeneity. It can obtain high-quality cutting cross section for SEM analysis and AFM analysis. When the sample is treated by this technique, the possibility of deformation or damage is the lowest, and the true structure information inside the sample can be exposed.

Ion Sputter Coater

Ion sputtering instrument is a kind of sample preparation instrument used for SEM. It can spray a layer of nanometer thickness Au film, Pt film or carbon film around 20nm on the sample surface, so as to improve the conductivity of the sample. It can minimize the damage to the sample, and can be coated with a uniform layer of particles on the surface of the sample, mainly for the SEM observation of the sample with poor conductivity.

Source:
https://www.alfachemic.com/testinglab/techniques/sample-preparation-platform.html