PREFACE

Phytochemistry is in the strict sense of the word the study of phytochemicals. These are chemicals derived from plants. In a narrower sense the terms are often used to describe the large number of secondary metabolic compounds found in plants. Many of these are known to provide protection against insect attacks and plant diseases. They also exhibit a number of protective functions for human consumers.

Phytochemistry is widely used in the field of Chinese medicine especially in the field of herbal medicine.

Phytochemical technique mainly applies to the quality control of Chinese medicine or herbal medicine of various chemical components, such as saponins, alkaloids, volatile oils, flavonoids and anthraquinones. In the development of rapid and reproducible analytical techniques, the combination of HPLC with different detectors, such as diode array detector (DAD), refractive index detector (RID), evaporative light scattering detector (ELSD) and mass spectrometric detector (MSD), has been widely developed.

In most cases, biologically active compounds in Chinese medicine or herbal medicine have not been determined. Therefore, it is important to use the phytochemical methods to screen and analyze bioactive components, not only for the quality control of crude drugs, but also for the elucidation of their therapeutic mechanisms. Modern pharmacological studies indicate that binding to receptors or ion channels on cell membranes is the first step of some drug actions. A new method in phytochemistry called biochromatography has been developed. This method combines human red cell membrane extraction and high performance liquid chromatography to screen potential active components in Chinese medicine.

Carbohydrates, sugars and gums - Carbohydrates (sugars) are the products of photosynthesis that plants use as starting material for most of the other compounds in plants. Cellulose is a carbohydrate that most plants make and contain that gives plants their structure and strength, some parts of plants may be more than 50% cellulose. Gums are polysaccharidic (made from sugars) compounds, where various different sugars are joined together to form polymer like structures. Some acacias produce quite large amounts of gum from injuries or insect attack, some are edible, they can vary greatly in their water solubility, some becoming gelatinous and not really dissolving.

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