

# Media Components

Culture media are formulated to create appropriate environments for specific microorganisms. Some common media constituents include:

## **Amino-Nitrogen**

Peptones, hydrolysates, infusions, and extracts are the main sources of nitrogen, essential for microorganism reproduction and metabolism.

## **Growth Factors**

Sheep, horse and rabbit blood, serum, and vitamins are added to support or enhance microorganism growth.

## **Source of Energy**

Carbohydrates and alcohols are added as carbon and energy sources which stimulate growth of microorganisms. Carbohydrates are also used to aid in microorganism identification and differentiation.

## **Buffering Agents**

Phosphates, acetates, and citrates maintain the pH in culture media.

## **Minerals**

Phosphate, sulfate, magnesium, calcium, manganese, and iron salts provide trace elements.

## **Selective Agents**

Antimicrobials, dyes, and bile salts are used to restrict the growth of certain organisms, while permitting the growth of others.

## **Indicator Dyes**

Dyes, such as phenol red and bromthymol blue, are used in the preparation of differential and selective culture media.

## **Gelling Agents**

Agar and gelatin are added to a liquid medium to change the consistency to a solid or semisolid medium.