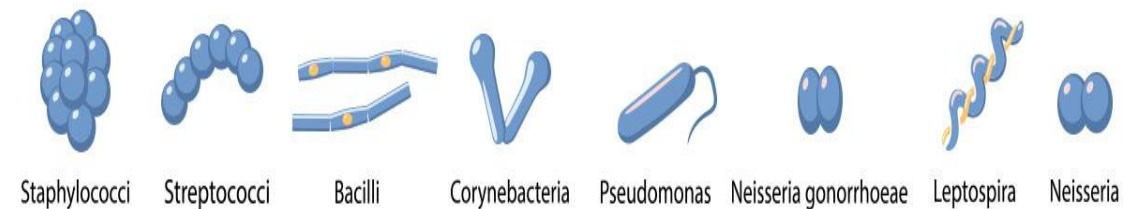


## Aerobic Cultivation

Aerobic bacteria require oxygen for survival. They are present in aerated moist soil containing organic carbon sources. There are two main types of aerobic bacteria:

1. The obligate aerobes that compulsorily require oxygen for deriving energy, growth, reproduction, and cellular respiration. These organisms do not survive in the absence of oxygen or flooding.
2. Facultative and Microaerophile aerobes: Facultative bacteria behave both aerobically and anaerobically, according to the prevailing conditions. In reduced environments, they acquire energy via anaerobic pathways, whereas in oxidative environments, they develop aerobic pathways. The microaerophilic bacteria require oxygen but in very low concentrations.



### Cultivation of Aerobic Bacteria

Atmospheric condition is generally satisfactory for culture of aerobes or facultative anaerobes but for the growth of many aerobes, it is necessary to provide extensive aeration. Forced aeration of cultures is therefore frequently desirable and can be achieved either by vigorously shaking the flask or tube on a shaker or by bubbling sterilized air into the medium. When aerobic organisms are to be grown in large quantities, it is advantageous to increase the exposure of the medium to the atmosphere. This can be accomplished by dispensing the medium in shallow layers or by providing aeration by constantly shaking the inoculated liquid cultures.

Creative Biogene has established a mature technical platform to culture various microorganisms that can be isolated from readily available sources. If you are interested in our aerobic cultivation services, please [contact us](#) for more details.