1 Summary

Many microbiology laboratory, no matter what already in pharmaceutical firms or to hygienic stations ground and firms conversant food production used to analysis big quantity microbiology samples conventional techniques based on cultivation appropriate culture. These techniques take hours to days to yield a result, are tedious and are not suitable for non-culturable microorganisms. Further, culture-based techniques do not provide real-time information on the physiological status of the organism in situ which is important in the industrial manufacture of many microbial products (1) and often at high of the number of micro - organisms, when isn't possibility number micro - organisms determine, all time cultivation about next dilution sample elongate and about time growth this micro - organism.
Flow cytometry makes it possible to obtaining real microbial determination single micro - organisms, without dependencies on type microbial culture. Nevertheless, flow cytometry has not been extensively used as a tool for routine microbial analysis. Reason is mainly high cost and complexity of instrumentation, the need for trained flow cytometrists and the lack of assay kits with appropriate biological reagents for specific applications. Much modern instruments are now relatively simply serviceable, thanks improvement user's interface (1). At present, this equipment is largely limited on simple analyses, for example examination cleanness for present of the total or viable quantity micro - organisms. Apparatus which the give to results those work be called BactiFlow ALS and this apparatus offers big quantity application for determination to many samples from all sorts of industrial branch. We availed these applications: determination total count micro - organisms in pharmaceutical productions determination total count yeasts and moulds in pharmaceutical productions and determinations total count micro - organisms in water. All work was distributive like comparative method among flow cytometry and classical cultivation method. In either event we measured microbiology virgin pharmaceutical products and water e.g. acidum citricum, natrii chloridum, aroma rubi ideai and next. Microbiology virgin samples we step by step burden micro - organisms in concentration 10^2, 10^3 and 10^4 CFU/ml. We used this micro - organisms - Staphylococcus aureus, Pseudomonas aeruginosa, Bacillus subtilis, and Candida albicans.
This technology make possible selectively label specific order micro - organisms that approve metabolism activity and intact cellulite membrane. Micro - organisms may be included in different forms (e.g. water, mud, food, drinks) and these forms may be outdoor highly variables (e.g. water from water supply in comparison with riverine water). Many matrices have high background autofluorescence (e.g., algae and minerals in water samples) or may bind non-specifically to the fluorescent biological reagents used (e.g., protein micelles in milk). Formulation of biological reagents and sample pre-treatments are critical to the development of suitable microbiological assays. Here, developments in instrumentation and biological reagents for microbiological applications are reviewed with specific examples from environmental or industrial microbiology. The broader considerations for the development of microbial assays for flow cytometry are also considered (1).