
Poster

Quality assurance in a microbiology laboratory

Natalia Martín Ballesteros, Adela Gavira Fernández (1)

José Ignacio Ibeas Corcelles (2)

(1) Quality department of Innoagral laboratories

(2) Department of Molecular Biology and Biochemical Engineering.



Keywords: Quality control; biotechnology; UNE-EN-ISO.

ABSTRACT

Motivation: Quality control companies are becoming increasingly important in different aspects of biotechnology. According to UNE-EN-ISO 17025: 2017, Innoagral is an accredited laboratory, which is devoted to agri-food, water and cosmetic analysis among others. In order to meet the different quality parameters established, one of the main purposes of this laboratory is to ensure the quality of the results emitted. To do so, a series of activities encompassed in the quality assurance of its tests have been defined, among which are: monthly verifications of the testing methods, manipulation and preparation controls of strains and growth mediums, as well as environment and surface controls and assay blanks. Depending on the type of activity, appropriate intervals are established for each analysis.

Methods: The presence investigation of *Salmonella* spp. and *Listeria monocytogenes* in foods and surfaces is carried out by chromogenic methods which are based on the UNE-EN-ISO 6579-1: 2017 and UNE-EN-ISO 11290-1: 2018. As they are qualitative microorganism detection methods, the samples are subjected to a preincubation stage prior to the spreading in specific media. Both control strains and growth mediums are subjected to their own quality controls to be used in the verification of different methods; all of them based on UNE- EN ISO 11133:2014.

Results: Based on the accuracy and precision criteria which are clearly-defined in the laboratory, the validity of the methods is checked, and a limit of detection of 15 ufc/portion, which has to be fulfilled in each of the verifications of the *Salmonella* spp. and *Listeria monocytogenes*, is established.

REFERENCES

- Norma UNE-EN ISO 6579-1:2017, Microbiology of the food chain. Horizontal method for the detection, enumeration and serotyping of *Salmonella*.
- Norma UNE-EN ISO 11290-1:2018, Microbiology of the food chain. Horizontal method for the detection and counting of *Listeria monocytogenes* and *Listeria* spp.
- Norma UNE-EN ISO 6887-1: 2017, Microbiology of the food chain. Preparation of test samples, initial suspension and decimal dilutions for microbiological examination.
- Norma UNE-EN ISO 11133:2014, Microbiology of food, animal feed and water . Preparation, production, storage and performance testing of culture media.
- Norma UNE-EN ISO 7218:2013, Microbiology of food and animal feeding stuffs - General requirements and guidance for microbiological examinations.