

## 令和4年度「日本薬局方の試験法等に関する研究」研究報告 培地の測定における pH 電極種別間の相関性評価\*6

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### Evaluation of Correlation between Measurements of Culture Medium pH Using Different Electrode Types \*6

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#### Summary

The pH of the culture medium significantly influences the growth of cells and microorganisms, and therefore maintaining a specific pH environment in the medium is important during culture. The Japanese Pharmacopoeia, Eighteenth Edition includes a pH measurement method as a general testing procedure, primarily focusing on widely used glass electrodes. However, in the general information of the JP 18th Edition, flat-type pH electrodes, such as ion-sensitive field-effect transistor (ISFET) electrodes were also recommended to measure pH on solid surfaces. In this study, therefore, we measured the pH of culture media with several types of pH electrodes, including electrodes with flat tips recommended for use in agar medium, and compared the values obtained with glass and ISFET pH electrodes. The preliminary results suggest that there is no practical differences between glass and ISFET electrodes, and that they can be substituted. However, for statistical confirmation that there is no significant difference between the two types, it will necessary to increase the number of tests. The study is continuing.

#### Key words

Culture medium, pH measurement, Electrode, ISFET