

MULTI-COLOR FLUORESCENT EXCITATION AND DETECTION DEVICE

ABSTRACT OF THE DISCLOSURE

A multi-color fluorescent excitation and detection device comprises at least one illumination module, a cartridge, a liquid lens module and at least one detection module. The illumination module provides illumination light at a specified range of wavelengths. The cartridge comprises a detection chip comprising plural detection wells. Each of the detection wells is adapted for accommodating a corresponding fluorescent sample therein. Each of the detection wells includes a first wall and a second wall. The illumination light transmits through the first wall to excite the fluorescent sample so as to generate a fluorescent signal. The liquid lens module comprising at least one liquid lens attached on the second wall. The liquid lens module is configured to enhance the fluorescent signal while the fluorescent signal passes through the second wall and the liquid lens. The detection module receives the fluorescent signal and converts the enhanced fluorescent signal to an electrical signal.

Figure 4