

Title (en)

METHOD AND KIT FOR THE SAMPLE PRESERVATION AND CELL DISRUPTION BEFORE THE EXTRACTION OF NUCLEIC ACIDS

Title (de)

VERFAHREN UND ARBEITSBESTECK ZUR PROBENKONSERVIERUNG UND ZUM ZELLAUFSCHLUSS VOR DER EXTRAKTION VON NUKLEINSÄUREN

Title (fr)

PROCEDE ET KIT POUR LA CONSERVATION D'ECHANTILLONS ET LA RUPTURE DES CELLULES AVANT L'EXTRACTION DES ACIDES NUCLEIQUES

Publication

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Application

EP 08865515 A 20081222

Priority

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Abstract (en)

[origin: WO2009080824A2] The invention relates to a method for preserving samples and disrupting cells which can be employed for the preparation of the extraction of nucleic acids from live cells, cell aggregates and tissue samples, and to a kit for carrying out the method. The method includes the introduction of live cells, cell aggregates or tissue samples whose nucleic acids are to be extracted into an excess of water-miscible and volatile organic liquid. The saturation of the sample with the organic liquid has an advantageous effect on the extraction of the nucleic acids, which is subsequently carried out in an aqueous medium. The mechanical cell disruption is facilitated by the virtually complete removal of the water from the cells. The biomembranes are dissolved in the organic liquid. tRNA and other RNA fractions with a low degree of polymerization, which are capable of permeating across the cell wall, can be extracted selectively without mechanical disruption. Before high-molecular-weight nucleic acids are extracted, the cells, cell aggregates or tissue samples are disrupted in the organic liquid with the aid of mechanical pulses. Since the nucleases are inactive in the dehydrated organic liquid, the biological samples or the homogenates prepared therefrom can be stored at room temperature in the organic liquid as long as desired. After incubation in the largely anhydrous organic liquid, the sample's nucleases are largely denatured. An advantageous kit according to the invention contains a mixed organic/aqueous phase with denaturing properties and, for each sample, a shaped body for dehydration which is adapted to suit the size of the preservation container, and a mixture, adapted to suit the size of the preservation container, of a few large and many small disruption bodies for the disruption in the nonaqueous medium. A considerable advantage of the invention is the fact that cooling and powerful mechanical pulses when disrupting the cells and during the extraction may be dispensed with, and that DNA extraction and cell disruption can be carried out at different times.

IPC 8 full level

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