ABSTRACT

PROCESS FOR IDENTIFYING CELL-SPECIFIC TARGET STRUCTURES

The present invention relates to a process for identifying cell-specific target structures, comprising the following steps:

(a) automatically depositing a reagent solution Y1 that includes at least one marker molecule on an object X1 which contains cells and/or cell membranes originating from a cell or tissue sample;

(b) allowing the reagent solution Y1 to react, and automatically detecting at least one marker pattern of the object X1 labeled with the reagent solution Y1;

(c) removing said reagent solution Y1 before or after detecting the marker pattern, and repeating steps (a) and (b) with further reagent solutions Yn (n = 2, 3, ..., N) each containing said at least one marker molecule and/or at least another marker molecule;

(d) combining the marker patterns detected in step (b) to give a complex molecular combination pattern of object X1;

(e) repeating steps (a) to (d) with at least one further object Xn (n = 2, 3, ..., N) containing other cells and/or other cell membranes that originate from a different cell or tissue sample;

(f) determining at least one difference between the combination pattern of object X1 and that of object Xn;

(g) identifying at least one reagent solution Y1 or Yn whose marker pattern causes the difference determined in step (f);

(h) selecting molecules or molecular complexes bound by at least the one marker molecule of the reagent solution Y1 or Yn identified in step (g) from a homogenate of cells and/or cell membranes originating from the cell or tissue sample of the object Xn differing as determined in step (f); and

(i) biochemically characterizing the molecules or molecular complexes selected in step (h).