CLAIMS

1. Well plate (11) comprising a plate main body (12) and at least one cavity (14) in an upper side (13) of the plate main body (12),

- wherein an upwardly open annular channel (15) is formed in the at least one cavity (14), the annular channel being delimited at an inner circumference thereof by a closed circumferential wall (16),

characterized in

- that a horizontal outer circumference of the circumferential wall (16) decreases from bottom to top up to an upper edge (22) of the circumferential wall (16), and
- that, within the horizontal circumference of the circumferential wall (16), at its upper edge (22), at least two retaining elements (24) connect upwardly to the upper edge (22) of the circumferential wall (16),
- wherein the at least two retaining elements (24) are at a free horizontal distance (28) to one another, and
- wherein at least one of the at least two retaining elements (24) is elastically supported at the plate main body (12) in horizontal direction, and characterized in that

the at least one of the retaining elements (24) or each retaining element (24) is a part of a retaining finger (21) extending along the vertical direction (31.

2. Well plate (11) of claim 1, **characterized in** that each of the at least two retaining elements (24) is supported at the plate main body (12) in the at least one cavity (14).

3 Well plate (11) of claim 1, **characterized in** that the circumferential wall (16) encloses at least an upper section of an upwardly open blind hole (20), at the bottom (33) of which the or each retaining finger (21) is supported at the plate main body (12).

4 Well plate (11) of claim 3, **characterized in** that the or each retaining finger (21) is made in one part with a base plate (34) which is force fitted at the bottom (33) of the blind hole (20).

5 Well plate (11) of any of the claims 1 to 4, **characterized in** that the or each retaining finger (21) is bending elastic.

6 Well plate (11) of any of the claims 1 to 5, **characterized in** that the at least two retaining elements (24) provided at two retaining fingers (21) are elastically supported at one another in such a way that a horizontal force of 1 mN between the at least two retaining elements (24) results

in a relative horizontal deflection of free ends (24) of the two retaining fingers (21) in a range from 20 to 1.000 µm or from 50 to 500 µm and/or in a range from 1 to 50 % or from 10 to 30 % of a resting distance of the retaining fingers (21).

7 Well plate (11) of any of the claims 1 to 6, **characterized in** that the or each retaining finger (21) has a diameter of 0.5 to 3.0 mm or of 0.75 to 2.0 mm and/or that the or each retaining finger (21) has a length of 5 to 10 mm from the bottom (33) of the blind hole (20) to the retaining element (24) formed at the holding finger (21) and/or an overall length up to its free end (44) of 10 to 20 mm.

8 Well plate (11) of any of the claims 1 to 7, **characterized in** that the or each retaining finger (21) extends upwardly beyond the retaining element (24) with a pointer area (36).

9 Well plate (11) of any of the claims 1 to 8, **characterized in** that the material (35) of the or each retaining finger (21) has a modulus of elasticity in a range from 0.5 to 50 MPa or in a range from 1 to 10 MPA.

10 Well plate (11) of any of the claims 1 to 9, **characterized in** that the or each retaining finger (21) ends below the upper side (13) of the plate main body (12).

11 Well plate (11) of any of the claims 1 to 10, **characterized in** that the or each retaining finger (21) is made of a material (35) which is optically contrastive with regard to the plate main body (12) and/or fluorescent.

12 Well plate (11) of any of the claims 1 to 11, **characterized in** that the at least two retaining elements (24) are formed at two retaining fingers (21) which each comprise at least one electrically conductive partial area extending up into the retaining element, and that the electrically conductive partial areas of the at least two retaining fingers (21) are electrically contactable from the bottom side of the plate main body (12).

13 Well plate (11) of any of the claims 1 to 12, **characterized in** that the or each retaining finger (21) has a horizontal notch (23) or bulge (51) in the area of the retaining element (24).

14 Well plate (11) of any of the preceding claims, **characterized in** that the horizontal circumference of the circumferential wall (16) is made up of two straight sections (26) which are parallel to each other and two semicircular arches (27) connecting the ends of the two straight sections (26).

15 Well plate (11) of claim 14, **characterized in** that the distance of the straight sections (26) and/or a radius of the semicircular arches (27) decreases from bottom to top.

16 Well plate (11) of any of the preceding claims, **characterized in** that an angle (30) of inclination of the circumferential wall (16) with regard to the vertical direction (31) is from 15° to 65°or from 35° to 55°.

17 Well plate (11) of any of the preceding claims, **characterized in** that the annular channel (15) is delimited at its outer circumference by walls (17, 18) which at least partially comprise an inclination angle (32) with regard to the vertical direction (31) towards the outside in a range from 15° to 65°or from 35° to 55°.

18 Well plate (11) of any of the preceding claims, **characterized in** that the annular channel (15) has a volume of 50 to 1,500 µl or of 100 to 250 µl.

19 Well plate (11) of any of the preceding claims, **characterized in** that, in a direction of the horizontal distance (28) of the at least two retaining elements (24), two electrode free spaces (25) are formed at the outer circumference of the at least one cavity (14).

20 Well plate (11) of any of the preceding claims, **characterized in** that a bottom of the annular channel (15) and the upper edge (22) of the circumferential wall (16) extend horizontally and that the at least one cavity (14) is closed except of its opening at the upper side of the plate main body (12).

21 Well plate (11) of any of the preceding claims, **characterized in** that the at least one cavity (14) is completely lined with biocompatible materials and/or that the circumferential wall (16) is made of a smooth and/or a hydrophobic material.

22 Well plate (11) of any of the preceding claims, **characterized in** that, in the well plate (11), a plurality of cavities (14) are arranged side-by-side in two horizontal directions.

23 Use of a well plate (11) of any of the preceding claims, **characterized in** that a suspension (38) of connective tissue cells and further cells is placed into the annular channel (15), that the cavity (14) is filled up with a culture medium (42) up to above the retaining elements (24), and that movements of a free upper end (44) of the at least one of the retaining elements (24) or of each retaining element (24) or of a pointer area (36) upwardly connecting thereto are monitored with a camera (45).

24 Use of claim 23, **characterized in** that the free upper end (44) of the pointer area (36) extends beyond the culture medium (42).

25 Use of claim 23 or 24, **characterized in** that the further cells are selected from muscle cells, heart muscle cells or skeletal muscle cells.

26 Use of any of the claims 23 to 25, **characterized in** that the suspension further includes a hydrogel.

27 Use of any of the claims 23 to 26, **characterized in** that an electric voltage of varying amplitude is applied between electrodes at the retaining elements (24) and/or in the culture medium (42).

28 Use of any of the claims 23 to 27, **characterized in** that the culture medium (42) is adapted to the or each retaining finger (21) in terms of color such that the or each retaining finger (21) is optically contrastive with regard to the culture medium (42).