Claims

1. A device (1), comprising a unit (2) for generating and emitting electric pulses, two or more electrodes or plates (2a, 2b) of a capacitor that are arranged in one electric circuit with said unit (2), and a treatment space (3) arranged between said electrodes or plates (2a, 2b) so that the treatment space (3) can be penetrated by the emitted electric pulses and an electric field resulting therefrom, **characterized in that** at least one additional adjustable resistor (9) is arranged in said electric circuit, and wherein a unit (13) for measuring the electric conductivity of a material to be treated in the treatment space (3) is provided, wherein said measuring unit (13) is configured to determine the electric conductivity of the material to be treated before the treatment is performed, to generate data for automatically adjusting said at least one adjustable resistor (9), so that matched load conditions can be applied onto the treatment space.

2. The device according to claim 1, **characterized in that** said at least one adjustable resistor (9) is in a series connection with respect to said electrodes or plates (2a, 2b).

3. The device according to claim 1, **characterized in that** said at least one adjustable resistor (9) is in a parallel connection with respect to said electrodes or plates (2a, 2b).

4. The device according to any of claims 1 to 3, **characterized in that** 1 to 10, preferably 1 to 5 of said adjustable resistors (9) are arranged in said electric circuit.

5. The device according to any of claims 1 to 4, **characterized in that** said at least one adjustable resistor (9) is selected from the group consisting of a potentiometer, a rheostat or a digital potentiometer.

6. The device according to any one of claims 1 to 5, characterized in that the unit (2) can generate electric pulses, so that a voltage increase takes place between the two or more electrodes (2a, 2b) of 10% to 90% of a target voltage of the electric pulses within a period of 0.1 to 1000 ns, the electric pulses have a pulse duration of 5 ns to 50000 ns, and the electric pulses, upon reaching the target voltage, have an electric field strength of 0.5 kV/cm to 100 kV/cm.

7. A method for treating isolated cell material of unicellular or multicellular organisms, or unicellular or multicellular organisms of a size of less than 1 cm diameter, for targeted inactivation, the extraction of bioactive compounds, and the stimulation of cell growth and/or cellular compounds, performed in a device (1) according to any one of claims 1 to 6, comprising the steps
a) introducing cell material into the treatment space (3),
b) applying an electric field to a treatment space(3),
characterized in that the load of said electric field is adjusted to the cell material to be treated by adjusting at least one adjustable resistor (9), wherein the step of adjusting said at least one adjustable resistor (9) is carried out before step b) by determining the electric conductivity of the cell material to be treated and automatically adjusting said at least one adjustable resistor (9) depending on said determined electric conductivity.

8. The method according to claim 7, **characterized in that** determining the electric conductivity of the cell material to be treated is carried out by measuring said electric conductivity with a measuring unit (13).

9. The method according to any of claims 7 to 8, **characterized in that** an electric field is applied with such electric pulses, so that a voltage increase takes place between the two electrodes (2a, 2b) or plates of a capacitor of 10% to 90% of a target voltage of the electric pulses within a period of 0.1 to 1000 ns, the electric pulses have a pulse duration of 5 ns to 50000 ns, and the electric pulses, upon reaching the target voltage, have an electric field strength of 0.5 kV/cm to 100 kV/cm.