

Patent claims

1. A device (1), comprising a unit (2) for generating and emitting electric pulses, and one treatment space (3) that
5 can be penetrated by the emitted electric pulses and an electric field resulting therefrom, **characterized in that** the device (1) further comprises a unit (4, 9) which can be moved into and out of said treatment space (3) such that cell material provided within a compartment (4a) of said
10 unit (4), or provided in a container (5) on or in said unit (4, 9), can be moved into and out of said treatment space (3), and wherein said treatment space (3) is provided between two electrodes (2a, 2b) or plates of a capacitor parallel to each other.
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2. The device according to claim 1, **characterized in that** the unit (4, 9) is provided on a motor (6) for generating a rotational movement.
- 20 3. The device according to claim 2, **characterized in that** the unit (4, 9) is a plate (4) or a conveying device (9) arranged on said motor (6) for generating a rotational movement, on which plate (4) or conveying device (9) the at least one container (5) can be fastened.
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4. The device according to claim 3, **characterized in that** 1 to 20, preferably 2 to 15, more preferably 5 to 10 containers (5) can be arranged on the unit (4, 9).
- 30 5. The device according to claim 2, **characterized in that** the unit (4) is a body, preferably a cylindrical body, which has at least one compartment (4a) for receiving cell mate-

rial and is arranged on said motor (6) for generating a rotational movement.

6. The device according to claim 5, **characterized in that** 1 to 5 20, preferably 2 to 15, more preferably 5 to 10 compartments (4a) are arranged in the unit (4).
7. The device according to any one of claims 1 to 6, **characterized in that** the device (1) furthermore comprises a 10 filling unit (7) for filling cell material into the at least one compartment (4a) or the at least one container (5).
8. The device according to any one of claims 1 to 7, **characterized in that** the device (1) furthermore comprises an 15 emptying unit (7) for removing cell material from the at least one compartment (4a) or the at least one container (5).
- 20 9. The device according to any one of claims 1 to 8, **characterized in that** the unit (2) for generating and emitting electric pulses comprises two electrodes (2a, 2b) or plates of a capacitor and can generate electric pulses, so that a voltage increase take place between the two electrodes (2a, 25 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.
- 30 10. A method for treating cells for stimulating cell growth, performed in a device (1) according to any one of claims 1 to 9, comprising the steps

- a) providing cell material in at least one compartment (4a) of a unit (4) or at least one container (5) on or in a unit (4, 9),
- b) applying an electric field to the treatment space (3),
- 5 c) performing a movement, preferably a rotational movement, of the unit (4, 9) into the treatment space (3).
11. The method according to claim 10, **characterized in that** the cell material is provided in the at least one compartment
- 10 (4a) of the unit (4) or at least one container (5) on or in the unit (4, 9) as a suspension in an electrically conductive liquid.
12. The method according to claim 10 or 11, **characterized in**
- 15 **that** the cell material is provided in the at least one compartment (4a) of the unit (4) or at least one container (5) on or in the unit (4, 9) through a filling unit (7).
13. The method according to any one of claims 10 to 12, **characterized in that** a rotational movement of the at least one
- 20 compartment (4a) of the unit (4) or at least one container (5) on or in the unit (4, 9) into the treatment space (3) is realized by moving the unit (4, 9) through the treatment space (3), preferably by performing a rotational movement
- 25 of the unit (4, 9).
14. The method according to any one of claims 10 to 13, **characterized in that** when the unit (4, 9) has been moved into the treatment space (3), movement of the unit (4, 9) is
- 30 stopped for a period of treatment of the cell material that is present in the treatment space (3).

15. The method according to any one of claims 10 to 14, **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.
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