Claims

1. A pharmaceutical dosage form (1; 51) for the application to a mucous membrane, in particular to a buccal, gastro-intestinal, rectal or vaginal mucous membrane, preferably a gastro-intestinal membrane, more preferably an esophageal membrane comprising

at least one preparation (2; 52) having an elongated shape and comprising an active pharmaceutical ingredient, the at least one preparation being capable to be arranged in a compact condition and in an expanded condition,

a capsule device (3; 53) comprising a hollow space (4; 54a, 54b) for accommodating the at least one preparation being in the compact condition,

the capsule device having an opening (5; 25; 35; 45.1; 45.2; 45.3; 55) and a first end (2a; 52a) of the preparation extending, in the compact condition, through the opening (5; 25; 35; 45.1; 45.2; 45.3; 55) for allowing pulling out the preparation from the hollow space into the surrounding area (6) of the capsule device thereby transferring the preparation from the compact condition to the expanded condition,

characterized in that

the opening (5; 55) and the preparation (2; 52) being dimensioned such that, when the preparation is pulled out from the opening (5; 25; 35; 45.1; 45.2; 45.3; 55), a spacing (S1; S2) is provided in an opening cross section (CS) of the opening (5; 55) between the preparation (2; 52) and a surface (5a) of the capsule device defining the opening (5; 55).

2. A pharmaceutical dosage form (1) according to claim 1, wherein the capsule device (3) extends along a central length axis (A) of the capsule device (3), and wherein the opening (5; 25; 35; 45.1; 45.2; 45.3) is arranged such that a central point of the opening (5; 25; 35; 45.1; 45.2; 45.3) is offset from the central length axis (A).

3. A pharmaceutical dosage form (1) according to claim 1 or 2, wherein the opening (5; 25; 35; 45.1; 45.2; 45.3) is a slit-like opening (5; 25; 35; 45.1; 45.2; 45.3) configured for allowing a strip-like preparation (2) to pass through the opening (5; 25; 35; 45.1; 45.2; 45.3), the cross section (CS) of the opening (5; 25; 35; 45.1; 45.2; 45.3) being larger than the cross section of the strip-like preparation (2), when the latter is moving through the opening.

4. A pharmaceutical dosage form (1) according to claim 3, wherein the slit-like opening (5; 25; 35; 45.1; 45.2; 45.3) has two opposing edges with a length (b), which extend along a main plane (B-C) of the slit-like opening (45.2), the main plane including a first line (B) and a second line (C) being perpendicular to the first line (B), the first line (B) being perpendicular to the central length axis (A) of the capsule device (3), and the normal (N) of the main plane including an angle α with the central length axis (A), wherein $0 <= \alpha <= 90°$.

5. A pharmaceutical dosage form (1) according to claims 4, wherein $1° < \alpha <= 90°$.

6. A pharmaceutical dosage form (1) according to claims 4, wherein $\alpha = 45°$.

7. A pharmaceutical dosage form (1) according to claims 4, wherein $\alpha = 90°$.

8. A pharmaceutical dosage form (1) according to claim 3, wherein a width (a) of the slit-like opening (5; 25; 35; 45.1; 45.2; 45.3) is larger than a thickness (t) of the strip-like preparation (2), which is moved out of the capsule device (3) through the slit-like opening (5; 25; 35; 45.1; 45.2; 45.3).

9. A pharmaceutical dosage form (1) according to any of the previous claims, wherein the spacing S is from 100 µm to 2000 µm.

10. A pharmaceutical dosage form (1) according to any of the previous claims, wherein the capsule device (3) comprises at least one guiding member (33c.1; 33c.3), which is arranged inside the inner space of the capsule device (3) to guide the motion of the string-

like or sheet like preparation (2) towards the opening (5; 25; 35; 45.1; 45.2; 45.3) of the capsule device (3).

11. A pharmaceutical dosage form (1) according to claims 4, wherein the at least one guiding members (33c.1; 33c.3) form a guiding compartment for accommodating and guiding the preparation (2).

12. A pharmaceutical dosage form (1) according to any of the previous claims, wherein the capsule device (3) is configured to be suitable to be swallowed by a patient.

13. A pharmaceutical dosage form (1) according to any of the previous claims, wherein the capsule device (3) comprises a first tube element (43a), and preferably the capsule device (3) comprises an additional second tube element, wherein preferably the second tube element has at least partially a smaller tube diameter than the first tube element (43a), and wherein preferably the second tube element is arranged at least partially in the first tube element (43a) and is thereby connected to the first tube element (43a).

14. A pharmaceutical dosage form (31) according to one of the previous claims 1 to 12, wherein the capsule device (23; 33) at least comprises a first half-cylinder element (23a; 33a), and preferably the capsule device (23; 33) comprises a second half-cylinder element (23b; 33b), which is connected to the first half-cylinder element (23a; 33a) to form the capsule device (23; 33).

15. A pharmaceutical dosage form (51) according to one of the previous claims 1 to 13, wherein pharmaceutical dosage form comprises a sinker device (60), which occupies a part of the hollow space and which provides an additional weight to the pharmaceutical dosage form.

16. Method of producing a capsule device (3; 23; 33) for a pharmaceutical dosage form (1; 31) as defined in any of the preceding claims, comprising the steps of:

- providing a material for forming a capsule device (3; 23; 33);
- generating an opening (5), in particular a slit-like opening (5; 25; 35; 45.1; 45.2; 45.3), in the material of the capsule device (3; 23; 33);

whereas the opening (5; 55) and a preparation (2; 52), whereas

the preparation (2;52) having an elongated shape and comprising an active pharmaceutical ingredient and capable of being arranged in a compact condition and in an expanded condition,

are dimensioned such that, when the preparation is pulled out from the opening (5; 25; 35; 45.1; 45.2; 45.3; 55), a spacing (S1; S2) is provided in an opening cross section (CS) of the opening (5; 55) between the preparation (2; 52) and a surface (5a) of the capsule device defining the opening (5; 55).

- forming the capsule device (3; 23; 33).

17. Method of producing the pharmaceutical dosage form according to any of claims 1 to 15, comprising the steps of:

- providing a capsule device (3; 23; 33) including an opening (5; 25; 35; 45.1; 45.2; 45.3);
- placing a preparation (2) having an elongated shape and comprising the active pharmaceutical ingredient, in a compact condition of the preparation (2), inside a hollow space (4) of the capsule device (3; 23; 33) and let an end portion of the preparation (2) extend through the opening, the opening (5; 25; 35; 45.1; 45.2; 45.3) and the preparation (2) being configured such that, when the preparation (2) is pulled out from the opening (5; 25; 35; 45.1; 45.2; 45.3), a spacing (S1; S2) is provided in the opening cross section (CS) of the opening (5) between the preparation (2) and a surface (5a) of the capsule device (3; 23; 33) defining the opening (5; 25; 35; 45.1; 45.2; 45.3).

18. A pharmaceutical dosage form (31) according to any of the previous claims 1 to 15, comprising an active pharmaceutical ingredient selected from the group of proteins, peptides, in particular insulin, buserelin, oesmospressin, calcintonin and estrogen, as well as biotechnologically manufactured drugs such as the antibody rituximab.