CLAIMS

1. Use of a fibroin layer made of nanofibers having an average fiber diameter of less than 900 nm as an element for entrapping bacteria in a device (1) for treating wounds (7).
2. Use according to claim 1, wherein said average diameter is within the range of 400 to 700 nm.
3. Use according to claim 1 or 2, wherein the fibroin layer is an electrospun fibroin.
4. Use according to any preceding claim, wherein said fibroin layer has a weight in the range of 10-40 g/m^2.
5. Use according to claim 4, wherein said fibroin layer has a weight in a range of 15-35 g/m^2.
6. Use according to any preceding claim, wherein said fibroin layer is coupled to an absorbent layer.
7. Use according to claim 6, wherein said absorbent layer is selected from viscose fibers, polyester fibers, cellulose fibers, cotton fibers, foams, gel forming particles, gel forming fibers and gauze.
8. Use according to claim 7, wherein said absorbent layer is selected from viscose/polyester in a weight ratio 70/30.
9. Use according to any one of claims 6 to 8, wherein said use is for negative pressure wound treatment (NPWT).
10. A process for the preparation of a fibroin to be used in a wound dressing device which comprises the following steps:
    a. pure fibroin meshes are solubilized by contact with $CaCl_2$ and formic acid in mild stirring conditions, at room temperature;
    b. the viscous solution obtained in step (a) is poured on a suitable container and left to let formic acid evaporate;
    c. the mixture fibroin + $CaCl_2$ of step (b) is then purified from $CaCl_2$ to obtain a fibroin film;
    d. the film of step (e) is teared off and left to dry;
    e. the films are treated with formic acid, under mild stirring conditions and the solution of fibroin and formic acid is transferred into syringes to be electrospun.