CLAIMS

1. A breast implant comprising a three-dimensional scaffold structure, wherein said three-dimensional scaffold structure comprises holes and/or pores, which upon implantation can be colonized by cells, and in addition comprises voids, and wherein said voids are filled with space-occupying structures that are removably attached to said three-dimensional scaffold structure and that are configured to prevent invasion of tissue and/or of individual cells into said voids.

2. The implant according to claim 1, wherein said three-dimensional scaffold structure is made of biodegradable material, wherein, preferably, said biodegradable material is selected from the group consisting of polycaprolactone, poly(1,3-trimethylene carbonate), polylactide, polyglycolide, poly(ester amide), poly(ethylene glycol)/poly(butylene terephthalate), poly(glycerol sebacate), poly(1,8-octanediol-co-citric acid), poly(1,10-decanediol-co-D,L-lactic acid), poly(diol citrate), poly(glycolide-co-caprolactone), poly(1,3-trimethylene carbonate-co-lactide), poly(1,3-trimethylene carbonate-co-caprolactone) and a copolymer of at least two of these materials, wherein, more preferably said biodegradable material is either polycaprolactone or a copolymer of polycaprolactone and either poly-trimethylene carbonate or polylactide.

3. The implant according to claim 1 or 2, wherein said voids are interconnected with each other and are arranged in a convergent geometric orientation radiating from one origin, or wherein the voids are not interconnected and are arranged in a non-convergent geometric orientation.

4. The implant according to any of the preceding claims, wherein said space-occupying structures are collapsible, wherein, preferably, said space-occupying structures comprise or consist of a liquid encased in a sheath that is impermeable to said liquid or a hydrogel encased in a sheath that is impermeable to said hydrogel.

5. The implant according to any of the preceding claims, wherein said space-occupying structures comprise or consist of ferromagnetic or superparamagnetic material, preferably of a composite of a biocompatible polymeric material, more preferably polycaprolactone, and of a biocompatible ferromagnetic material, more preferably iron oxide.

6. The implant according to any of the preceding claims, wherein said space-occupying structures are coated with a coating that prevents tissue attachment, wherein, preferably said coating is a coating which comprises a cell proliferation inhibiting drug, more preferably a coating that comprises one or more of the drugs tacrolimus, everolimus and mitomycin c.

7. The implant according to any of the preceding claims, wherein said three-dimensional scaffold structure comprises a stack of multiple interconnected layers, each layer being composed of a plurality of, preferably parallel, bars, wherein
   a) said bars have a zigzag structure or a wiggled structure; or
   b) the bars of every *n*-th layer within said stack have a zigzag structure or a wiggled structure whereas the bars of all other layers are straight bars,
      wherein *n* is an integer in the range of from 2 to 5, preferably 2 or 3, more preferably 2; or
   c) each layer comprises bars that have a zigzag structure or a wiggled structure, wherein, preferably, at least 1/10, more preferably at least 1/5, more preferably at least 1/3, more preferably at least 1/2 of the bars of each layer have a zigzag structure or a wiggled structure, whereas, preferably, all the other bars of said layer are straight bars; or
   d) each *n*-th layer within said stack comprises bars that have a zigzag structure or a wiggled structure, wherein, preferably, at least 1/10, more preferably at least 1/5, more preferably at least 1/3, more preferably at least 1/2 of the bars of said each *n*-th layer have a zigzag structure or a wiggled structure, whereas, preferably, all the other bars of said each *n*-th layer within said stack and the bars of all other layers are straight bars,
      wherein *n* is an integer in the range of from 2 to 5, preferably 2 or 3, more preferably 2; or
   e) 1/10, preferably 1/5, more preferably 1/3, more preferably 1/2 of the layers within said stack are layers that comprise bars having a zigzag structure or a wiggled structure, whereas, preferably, the other layers are layers that comprise only straight bars.

8. The implant according to any of claims 1-6, wherein said three-dimensional scaffold structure comprises a stack of multiple interconnected layers, each layer being composed of a plurality of parallel bars, wherein the layers within said stack are arranged such that the parallel bars of any layer *X* within the stack and the parallel bars of the layer subsequent to said layer *X* (i.e. layer *X*+1) form an angle of (180/*n*)°, wherein *n* is an integer in the range of from 2 to 10, preferably 2, and wherein the bars

of the *n*-th subsequent layer with respect to a certain layer *Y* within the stack (i.e. layer *Y+n*) are offset with respect to the bars of said layer *Y* by a distance of $1/m$ times the distance between the parallel bars of said layer *Y*, wherein *m* is an integer within the range of from 2 to 5, preferably 2,

wherein, preferably, the bars of the layers within said stack are straight bars or the bars of the layers within said stack or the bars of every *n*-th layer within said stack have a zigzag structure or wiggled structure, whereas the bars of all other layers are straight bars.

9. The implant according to any of the preceding claims, wherein said three-dimensional scaffold structure is formed from a shape-memory polymer (SMP).

10. A method of manufacturing a breast implant according to any of claims 1-9, said method comprising the steps of:
    a) providing a three-dimensional scaffold structure, preferably a three-dimensional scaffold structure made of biodegradable material, said three-dimensional scaffold structure comprising holes and/or pores, which upon implantation can be colonized by cells, and in addition comprises voids;
    b) providing space-occupying structures that are configured to prevent invasion of tissue and/or of individual cells into the space occupied by them;
    c) inserting said space-occupying structures into said voids such that said space-occupying structures fill said voids, and removably attaching said space-occupying structures to said three-dimensional scaffold structure;

    thus providing an implant.

11. A kit comprising an implant according to any of claims 1-9 and one of
    - a removal tool, for removal of said space-occupying structures from said implant, said removal tool comprising a blade for excision of a space-occupying structure, wherein said blade is shaped as a biopsy punch blade with the same shape and size as the cross-section of the space-occupying structure to be removed, said removal tool further comprising an appliance that allows to grasp the excised space-occupying structure,
    - a removal device for the removal of ferromagnetic or superparamagnetic space-occupying structures from said implant, wherein said removal device comprises at least one magnet, preferably at least one electromagnet, and
    - a guiding device for providing feedback to a surgeon during the procedure of introducing transplantation cells into the void spaces generated upon removal of space-occupying structures from said implant, wherein said guiding device fits the

contours of the implant, wherein said guiding device comprises markings and/or guiding holes which are spatially and angularly aligned to the void spaces generated upon removal of said space-occupying structures.