## CLAIMS

1. A cyclic peptide or a cyclic peptidomimetic, with between 15 and 60 amino acids, having a growth factor receptor-binding capability and comprising a peptide with four amino acids PEP1, a peptide with five amino acids PEP2, a peptide with three amino acids PEP3, and a peptide with three amino acids PEP4;

wherein PEP1 is SAIS;

wherein PEP2 is LKNYQ;

wherein PEP3 is selected from the group consisting of VPT, VPE, APT, TPT, VPA, APV, VPQ, VSQ, SRV and TQV ;

and wherein PEP4 is selected from the group consisting of VVE, TVE, VVR, VVK, VAE, AVS, VVD, VEE, VRS, VKS, QHN, EHS, EEH and EDH.

2. A cyclic peptide or a cyclic peptidomimetic according to claim 1, wherein said growth factor receptor is selected from the group consisting of platelet-derived growth factor, platelet-derived angiogenesis factor, vascular endothelial growth factor, platelet-derived epidermal growth factor, transforming growth factor beta, transforming growth factor A, epidermal growth factor, fibroblast growth factor, acidic fibroblast growth factor, basic fibroblast growth factor, insulin-like growth factors 1 and 2, keratinocyte growth factor, tumor necrosis factor, fibroblast growth factor and interleukin-1, Keratinocyte Growth Factor-2, and combinations thereof.

3. A cyclic peptide or a cyclic peptidomimetic according to claims 1 or 2, comprising a peptide with three amino acids PEP3, a peptide with three amino acids PEP4, an amino acid or a peptide with between two and seven amino acids PEP7, an amino acid or a peptide with between two and six amino acids PEP8; wherein PEP7 is an amino acid or a peptide with between two and seven amino acids of general formula $AA^1$-$AA^2$-$AA^3$-$AA^4$-$AA^5$-$AA^6$-$AA^7$; wherein $AA^1$, $AA^2$, $AA^3$, $AA^4$, and $AA^5$ are independently absent or any amino acids; wherein $AA^6$ is absent or selected from the group consisting of S, T, C, E, Q, P and R; wherein $AA^7$ is absent or is selected from the group consisting of S, T, C, E, Q, P and R; wherein at least one of $AA^1$, $AA^2$, $AA^3$, $AA^4$, $AA^5$, $AA^6$ or $AA^7$ is not absent; wherein PEP8 is an amino acid or a peptide with between two and six amino acids of general formula $AA^{33}$-$AA^{34}$-$AA^{35}$-$AA^{36}$-$AA^{37}$-$AA^{38}$; wherein $AA^{33}$ is absent or is selected from the group consisting of any amino acids at the exception of amino acids having an aromatic group-containing side chain; $AA^{34}$ is absent or is selected from the group consisting of amino acids having an acidic group-containing side chain and amino acids having an aliphatic side chain; wherein $AA^{35}$ is absent or is selected from the group consisting of amino acids having a polar, non-charged group-containing side chain, preferably is S or C; wherein $AA^{36}$ is absent or is selected from the group consisting of amino acids having an acidic group-containing side chain and amino acids having an aliphatic side chain; wherein $AA^{37}$ is absent or is selected from the group consisting of amino acids having a polar, non-charged group-containing side chain, preferably is S or C; wherein $AA^{38}$ is absent or is selected from the group

consisting of any amino acids; and wherein at least one of $AA^{33}$, $AA^{34}$, $AA^{35}$, $AA^{36}$, $AA^{37}$ or $AA^{38}$ is not absent; and wherein X is C or S.

**4.** A cyclic peptide or a cyclic peptidomimetic according to any one of claims 1 to 3, comprising a peptide with between six and twelve amino acids PEP9 and a peptide with between six and eleven amino acids PEP10; wherein PEP9 is a peptide of general formula PEP7-PEP5; wherein PEP5 is a cyclic peptide of formula PEP3-$AA^{11}$-$AA^{12}$; wherein PEP3 is selected from the group consisting of VPT, VPE, APT, TPT, VPA, APV, VPQ, VSQ, SRV and TQV; wherein $AA^{11}$ is selected from the group consisting of E, K, Q, R, A, D, G and H; and wherein $AA^{12}$ is selected from the group consisting of L, M, T, E, Q and H; wherein PEP7 is an amino acid or a peptide with between two and seven amino acids of general formula $AA^{1}$-$AA^{2}$-$AA^{3}$-$AA^{4}$-$AA^{5}$-$AA^{6}$-$AA^{7}$; wherein $AA^{1}$, $AA^{2}$, $AA^{3}$, $AA^{4}$, and $AA^{5}$ are independently absent or any amino acids; wherein $AA^{6}$ is absent or selected from the group consisting of S, T, C, E, Q, P and R; wherein $AA^{7}$ is absent or is selected from the group consisting of S, T, C, E, Q, P and R ; wherein PEP10 is a peptide of general formula PEP6-PEP8; wherein PEP6 is a cyclic peptide of formula $AA^{26}$-$AA^{27}$-$AA^{28}$-$AA^{29}$-PEP4; wherein PEP4 is selected from the group consisting of VVE, TVE, VVR, VVK, VAE, AVS, VVD, VEE, VRS, VKS, QHN, EHS, EEH and EDH; wherein $AA^{26}$ is absent or selected from the group consisting of amino acids having an acidic group-containing side chain, preferably is absent or is E; wherein $AA^{27}$ and $AA^{28}$ are independently selected from the group consisting of amino acids having an acidic group-containing side chain and amino acids having an apolar side chain; and wherein $AA^{29}$ is absent or selected from the group consisting of amino acids having a polar, non-charged group-containing side chain, preferably is absent or is S; wherein PEP8 is an amino acid or a peptide with between two and six amino acids of general formula $AA^{33}$-$AA^{34}$-$AA^{35}$-$AA^{36}$-$AA^{37}$-$AA^{38}$; $AA^{33}$ is absent or is selected from the group consisting of any amino acids at the exception of amino acids having an aromatic group-containing side chain; $AA^{34}$ is absent or is selected from the group consisting of amino acids having an acidic group-containing side chain and amino acids having an aliphatic side chain; wherein $AA^{35}$ is absent or is selected from the group consisting of amino acids having a polar, non-charged group-containing side chain, preferably is S or C; wherein $AA^{36}$ is absent or is selected from the group consisting of amino acids having an acidic group-containing side chain and amino acids having an aliphatic side chain; wherein $AA^{37}$ is absent or is selected from the group consisting of amino acids having a polar, non-charged group-containing side chain, preferably is S or C; wherein $AA^{38}$ is absent or is selected from the group consisting of any amino acids.

**5.** A cyclic peptide or a cyclic peptidomimetic according to any one of claims 1 to 4, wherein the pair PEP3:PEP4 is selected from the group consisting of VPT:VVE, VPE:TVE, APT:VVR, APT:VVK, VPT:VAE, VPT:AVS, TPT:VVD, VPA:VVE, APV:VEE, VPQ:VRS, VSQ:VKS, VPQ:VKS, VPT:QHN, VPT:EHS, SRV:EEH and TQV:EDH.

**6.** A cyclic peptide or a cyclic peptidomimetic according to any one of claims 1 to 5, wherein the quadruplet PEP5:PEP1:PEP2:PEP6 is selected from the group consisting of

VPTKM:SAIS:LKNYQ:NMVVE, VPTKL:SAIS:LKNYQ:NMVVE, VPTQL:SAIS:LKNYQ:NMVVE, VPTKL:SAIS:LKNYQ:EGMSVVE, VPTKL:SAIS:LKNYQ:GMVVE, VPTKM:SAIS:LKNYQ:GMVVE, VPTRL:SAIS:LKNYQ:DMVVE, VPTKT:SAIS:LKNYQ:MIVVE, VPTAL:SAIS:LKNYQ:MIVVE, VPTDL:SAIS:LKNYQ:MIVVE, VPTDL:SAIS:LKNYQ:MVVVE, VPEKM:SAIS:LKNYQ:NMTVE, APTKL:SAIS:LKNYQ:NMVVR, APTQL:SAIS:LKNYQ:NMVVR, APTKL:SAIS:LKNYQ:NMVVK, VPTKL:SAIS:LKNYQ:EGMSVAE, VPTKL:SAIS:LKNYQ:GMAVS, TPTKM:SAIS:LKNYQ:GMVVD, VPARL:SAIS:LKNYQ:DMVVE, APVKT:SAIS:LKNYQ:MIVEE, VPQAL:SAIS:LKNYQ:MIVRS, VSQDL:SAIS:LKNYQ:MIVKS, VPQDL:SAIS:LKNYQ:MVVKS, VPTEE:SAIS:LKNYQ:FLQHN, VPTGQ:SAIS:LKNYQ:LEEHS, SRVHH:SAIS:LKNYQ:RLEEH, and TQVQL:SAIS:LKNYQ:TLEDH.

**7.** A cyclic peptide or a cyclic peptidomimetic according to any one of claims 1 to 6, wherein the hexaplet PEP7:PEP3:PEP1:PEP2:PEP4:PEP8 is selected from the group consisting of GIPEPXX:VPT:SAIS:LKNYQ:VVE:SXAXR, HVTKPTX:VPT:SAIS:LKNYQ:VVE:SXGXH, YVPKPXX:VPT:SAIS:LKNYQ:VVE:SXGXH, TVPKPXX:VPT:SAIS:LKNYQ:VVE:AXGXH, AVPKAXX:VPT:SAIS:LKNYQ:VVE:AXGXH, KVGKAXX:VPT:SAIS:LKNYQ:VVE:XGXR, KASKAXX:VPT:SAIS:LKNYQ:VVE:EXGXR, GSAGPXX:VPT:SAIS:LKNYQ:VVE:RXGXS, AAPASXX:VPT:SAIS:LKNYQ:VVE:AXGXR, STPPTXX:VPT:SAIS:LKNYQ:VVE:SXGXR, HVPKPXX:VPT:SAIS:LKNYQ:VVE:SXGXH, RVPSTXX:VPT:SAIS:LKNYQ:VVE:XGXL, ASAAPXX:VPT:SAIS:LKNYQ:VVE:XKXS, ASASPXX:VPT:SAIS:LKNYQ:VVE:XKXS, GIPEPXX:VPE:SAIS:LKNYQ:TVE:SXAXR, HVTKPTX:APT:SAIS:LKNYQ:VVR:SXGXH, YVPKPXX:APT:SAIS:LKNYQ:VVR:SXGXH, TVPKPXX:APT:SAIS:LKNYQ:VVR:AXGXH, AVPKAXX:APT:SAIS:LKNYQ:VVK:AXGXH, KVGKAXX:VPT:SAIS:LKNYQ:VAE:XGXR, KASKAXX:VPT:SAIS:LKNYQ:AVS:EXGXR, GSAGPXX:TPT:SAIS:LKNYQ:VVD:RXGXS, AAPASXX:VPA:SAIS:LKNYQ:VVE:AXGXR, HVPKPXX:APT:SAIS:LKNYQ:VVR:SXGXH, RVPSTXX:APV:SAIS:LKNYQ:VEE:XGXL, ASAAPXX:VPQ:SAIS:LKNYQ:VRS:XKXS, ASASPXX:VSQ:SAIS:LKNYQ:VKS:XKXS, ASASPXX:VPQ:SAIS:LKNYQ:VKS:XKXS, NDEGLEX:VPT:SAIS:LKNYQ:QHN:KXEXR, NDEGLEX:VPT:SAIS:LKNYQ:EHS:QXEXR, SSVKXQP:SRV:SAIS:LKNYQ:EEH:LEXAXA, and RNVQXRP:TQV:SAIS:LKNYQ:EDH:LAXKXE.

**8.** A cyclic peptide or a cyclic peptidomimetic, according to any one of claims 1 to 7, wherein said cyclic peptide or cyclic peptidomimetic may be any one of cyclic peptides of SEQ ID NO: 1 to 130880.

**9.** A cyclic peptide or a cyclic peptidomimetic, having growth factor receptor-binding capability, according to any one of claims 1 to 8, comprising at least one biomaterial-affinity-containing group, wherein said at least one biomaterial-affinity-containing group provides said cyclic peptide or a cyclic peptidomimetic, with the ability to covalently or non-covalently interact with a biomaterial.

**10.** A functionalized biomaterial comprising at least one cyclic peptide or a cyclic peptidomimetic, according to any one of claims 1 to 9, and a biomaterial.

**11.** A medical device comprising at least one cyclic peptide or cyclic peptidomimetic, according to any one of claims 1 to 9, or functionalized biomaterial according to claim 10.

**12.** A medical composition comprising at least one cyclic peptide or cyclic peptidomimetic according to any one of claims 1 to 9, or functionalized biomaterial according to claim 10, and a medically acceptable carrier.

**13.** A cyclic peptide or a cyclic peptidomimetic according to any one of claims 1 to 9, or functionalized biomaterial according to claim 10, or a medical composition according to claim 12, for use in a medical method.

**14.** A cyclic peptide cyclic peptidomimetic, functionalized biomaterial or medical composition for a use according to claim 13, wherein said medical method is a method for inducing cell differentiation and for promoting tissue regeneration.

**15.** A cyclic peptide cyclic peptidomimetic, functionalized biomaterial or medical composition for a use according to claim 13, wherein said medical method is a method selected from the group consisting of enhancing osteogenesis, inducing bone formation, inducing osteocyte maturation, treating, preventing or diagnosing osteoporosis, enhancing chondrogenesis, inducing cartilage formation, inducing chondrocyte maturation, treating or preventing osteoarthritis, treating or preventing costochondritis, treating or preventing herniation, treating or preventing achondroplasia, treating, preventing or diagnosing relapsing polychondritis; enhancing tissue closure; treating obesity, Dercum's disease, Multiple symmetric lipomatosis, Familial multiple lipomatosis, Lipodystrophy, Lipedema, Atherosclerosis, and any combination thereof.