Supplemental Information

Non-glycanated Decorin Is a Drug Target
on Human Adipose Stromal Cells

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Supplemental Figure 2

(a) CSWKYWFGECD31DNA

WAT (periprostatic)  Spleen  Heart  Skeletal muscle

Lung  Pancreas  Kidney  Liver  Brain

(b) Pep8CD31DNA

WAT (periprostatic)  Spleen  Heart  Skeletal muscle

Lung  Pancreas  Kidney  Liver  Brain
Supplemental Figure 3

a

b

Tumor

WAT

Tumor

WAT

Tumor

WAT
Supplemental Figure 4

a

D-WAT: 0 mM  0.01 mM  0.05 mM

b

IP ASC
MDA-MB-231
PC3
DU145
KLAKLAK₂: 0.05 mM  1.0 mM
Supplemental Figure 5

ΔDCN  Full length glycanated DCN  Control Protein-His$_6$
Supplemental Figure 1 Human ASC express non-glycanated DCN that binds to CSWKYWFGEC. (a) Total proteins were extracted from subcutaneous (SC) and intraperitoneal (IP) WAT of a bariatric surgery patient 1 and the indicated control cultured cancer cells. (b) Membrane proteins were extracted from SC ASC of a bariatric surgery patient 3 and the indicated control cultured cancer cells. Extracts were subjected to immunoblotting with anti-human decorin antibodies. Arrow points to the band doublet, where the upper band is the core decorin. (c) Wild-type and DCN-null MEFs were subjected to anti-DCN IF or incubated with 20 nM biotinylated CSWKYWFGEC and a control peptide CWLGEWLG / Streptavidin-Cy3. Nuclei are stained with DAPI. Scale bar, 50 µm.

Supplemental Figure 2 CSWKYWFGEC identifies ASC in human WAT. Serial paraffin sections of human periprostatic WAT and indicated control organs were incubated with (a) biotinylated CSWKYWFGEC peptide or (b) control peptide Pep8 and subjected to immunofluorescence with antibodies against CD31 (green) and streptavidin (red). Note that CSWKYWFGEC bound cells are observed in WAT. Nuclei are blue. Scale bar, 50 µm.

Supplemental Figure 3 CSWKYWFGEC identifies ASC in human tumors. Paraffin sections of human IDC Grade 3 ER+PR- Stage 3 breast cancer (a), DCIS Grade 3 ER-PR- Stage 0 breast cancer (b), and IDC Grade 2 ER+PR+ Stage 1 breast cancer (c) were incubated with biotinylated CSWKYWFGEC
peptide and subjected to immunofluorescence with antibodies against CD31 (green) and streptavidin (red). Note that CSWKYWFGEC bound cells are observed in WAT around the malignant lesions and tumor stroma. Nuclei are blue. Scale bar, 50 µm.

Supplemental Figure 4 Pro-apoptotic domain does not kill ASC specifically. (a) Human visceral ASC from patient 2 were treated with indicated concentrations of peptide D-WAT for 4 hr and stained with Trypan Blue. Blue color shows selective killing of ASC at 0.05 mM. (b) Human ASC, breast adenocarcinoma (MDA-MB-231) and prostate adenocarcinoma (PC3 and DU145) cells were treated with indicated concentrations of aminohexanoic acid-KLAKLAK$_2$ conjugate for 2 hr and stained with Trypan Blue. Scale bar, 50 µm.

Supplemental Figure 5 Extracellular non-glycanated DCN binds to ASC. Human subcutaneous ASC were incubated with 100 nM of recombinant His$_6$-tagged ΔDCN, full-length glycanated DCN (R&D Systems), or control protein CLIC4. After this, cells were washed with 3x PBS, fixed, permeabilized and incubated with His-tag monoclonal (Abserotec MCA1396P) and secondary Cy-3 conjugated antibodies. Note the speckled red signal for ΔDCN. Nuclei are blue. Scale bar, 50 µm.