Series GSE132936

Query DataSets for GSE132936

Status	Public on Jun 19, 2019
Title	Transcriptome Analysis and Functional Identification of Adipose-Derived Mesenchymal Stem Cells in Secondary Lymphedema
Organism	Homo sapiens
Experiment type	Expression profiling by high throughput sequencing
Summary	We isolated adipose-derived mesenchymal stem cells (ASCs) from the lymphedema adipose tissue from liposuction specimens of 10 patients with malignancy-related extremity lymphedema, and we used adipose tissue from the normal upper abdomen of the same patients as control tissue. We compared the proliferation and adipogenic differentiation capacity between the two kinds of ASCs, and we explored the transcriptomic differences between them. We found that lymphedema-associated ASCs had more rapid proliferation and a higher adipogenic differentiation capacity. CDK1 inhibitors could return the abnormal biological characteristics of these cells to normal phenotype, suggesting that CDK1 is a key driver of proliferation and adipogenic differentiation in these cells, which might expound the accumulation of adipose tissue extensively observed in secondary lymphedema, indicating the CDK1 may be a potential target for lymphedema therapy. On the other hand, our finding showed that ASCs from lymphedema adipose tissues have higher immunosuppressive effect, and the inhibition of up-regulated cytokine CHI3L1 may be clinically beneficial. In summary, explore the underlying mechanisms of fat deposition in lymphedema may provide powerful strategies for the treatment of lymphedema.
Overall design	mRNA sequencing of ASCs from the affected thighs of 10 patients with lymphedema, and as control, ASCs from the normal upper abdomen of the same patients were also sequenced.

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Citation missing	*Has this study been published? Please login to update or notify GEO.*
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Platforms (1)	GPL20795 HiSeq X Ten (Homo sapiens)
Samples (20)	GSM3897040 ADSCD10P3
More...	GSM3897041 ADSCD10P3L
	GSM3897042 ADSCD14P3

Relations

BioProject	PRJNA549491
SRA	SRP201793

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SOFT formatted family file(s)	SOFT
MINiML formatted family file(s)	MINiML
Series Matrix File(s)	TXT

Supplementary file	Size	Download	File type/resource
GSE132936_RAW.tar	44.3 Mb	(http)(custom)	TAR (of TSV)

SRA Run Selector

Raw data are available in SRA

Processed data provided as supplementary file