

Table S1. Information of species, genes and sequence code used in this study

Species	Genes	Sequence code
<i>Saccharomyces cerevisiae</i>	<i>ole-1</i>	Ensemble: YGL055W
<i>Caenorhabditis elegans</i>	<i>fat5</i>	WormBase: WBGene00001397
	<i>fat6</i>	WormBase: WBGene00001398
	<i>fat7</i>	WormBase: WBGene00001399
	<i>hsc70-4, scd</i>	FlyBase: FBgn0001219
<i>Drosophila melanogaster</i>		
<i>Ciona savignyi</i>	<i>scda</i>	Ensemble: ENSCSAVP00000003593
	<i>scdb</i>	Ensemble: ENSCSAVP00000004039
	<i>scdc</i>	Ensemble: ENSCSAVP00000003934
<i>Branchiostoma floridae</i>	<i>scda</i>	GenBank: XP_002588865
	<i>scdb</i>	GenBank: XP_002585987
	<i>scdc</i>	GenBank: XP_002596094
<i>Danio rerio</i>	<i>scd1a</i>	ZFIN: ZDB-GENE-031106-3
	<i>scd1b</i>	ZFIN: ZDB-GENE-050522-12
<i>Gasterosteus aculeatus</i>	<i>scd1a</i>	Ensemble: ENSGACG00000002397
	<i>scd1b</i>	Ensemble: ENSGACG00000008487
<i>Oryzias latipes</i>	<i>scd1a</i>	Ensemble: ENSORLG00000009222
	<i>scd1b</i>	Ensemble: ENSORLG00000006839
<i>Tetraodon nigoviridis</i>	<i>scd1a</i>	Ensemble: ENSTNIG00000019395
	<i>scd1b</i>	Ensemble: ENSTNIG0000000140
<i>Xenopus tropicalis</i>	<i>scd</i>	Ensemble: ENSXETG000000023757
<i>Scyliorhinus canicula</i>	<i>scd1</i>	GenBank: JF729408
	<i>scd5</i>	GenBank: JF729409
<i>Anolis carolinensis</i>	<i>scd1</i>	Ensemble: ENSACAP00000010645
	<i>scd5</i>	Ensemble: ENSACAP00000010271
<i>Taeniopygia guttata</i>	<i>scd1</i>	Ensemble: ENSTGUP00000007924
	<i>scd5</i>	Ensemble: ENSTGUP00000002919
<i>Gallus gallus</i>	<i>scd1</i>	Ensemble: ENSGALP00000039331
	<i>scd5</i>	Ensemble: ENSGALP00000018194
<i>Meleagris gallopavo</i>	<i>SCD1</i>	Ensemble: ENSMGAG00000007446
	<i>SCD5</i>	Ensemble: ENSMGAG00000008016
<i>Ornithorhynchus anatinus</i>	<i>scd1</i>	Ensemble: ENSOANG00000002477
<i>Monodelphis domestica</i>	<i>scd1</i>	Ensemble: ENSMODG00000010632
	<i>scd5</i>	Ensemble: ENSMODG00000011983
<i>Macropus eugenii</i>	<i>scd1</i>	Ensemble: ENSMEUG00000004515
<i>Mus musculus</i>	<i>scd1</i>	Ensemble: ENSMUSG00000037071
	<i>scd2</i>	Ensemble: ENSMUSG00000025203
	<i>scd3</i>	Ensemble: ENSMUSG00000025202
	<i>scd4</i>	Ensemble: ENSMUSG00000050195
<i>Rattus norvegicus</i>	<i>scd1</i>	GenBank: NP_631931
<i>Tupaia belangeri</i>	<i>scd1</i>	This study
	<i>scd5</i>	

<i>Oryctolagus cuniculus</i>	<i>scd1</i>	GenBank: XP_002718695
	<i>scd2</i>	GenBank: XP_002718696
	<i>scd3</i>	GenBank: XP_002718697
	<i>scd4</i>	GenBank: XP_002718662
	<i>scd5</i>	Ensemble: ENSOCUG00000005937
<i>Macaca mulatta</i>	<i>scd1</i>	Ensemble: ENSMMUP00000014179
	<i>scd5</i>	Ensemble: ENSMMUG00000000866
<i>Gorilla gorilla</i>	<i>scd1</i>	Ensemble: ENSGGOP0000001081
	<i>scd5</i>	Ensemble: ENSGGOP00000004994
<i>Pan troglodytes</i>	<i>scd1</i>	Ensemble: ENSPTRG00000002847
	<i>scd5</i>	Ensemble: ENSPTRG00000016220
<i>Homo sapiens</i>	<i>scd1</i>	Ensemble: ENSG00000099194
	<i>scd5</i>	Ensemble: ENSG00000145284
<i>Loxodonta africana</i>	<i>scd1</i>	Ensemble: ENSLAFP00000014914
	<i>scd5</i>	Ensemble: ENSLAFP00000013895
<i>Canis familiaris</i>	<i>scd1</i>	GenBank: Xp543968
	<i>scd5</i>	GenBank: Xp544953
<i>Tursiops truncatus</i>	<i>scd1</i>	Ensemble: ENSTTRP00000011286
	<i>scd5</i>	Ensemble: ENSTTRP00000007215
<i>Sus scrofa</i>	<i>scd1</i>	Ensemble: ENSSSCG00000010554
	<i>scd5</i>	Ensemble: ENSSSCG00000009245
<i>Equus caballus</i>	<i>scd1</i>	Ensembl: ENSECAG00000014658
	<i>scd5</i>	Ensembl: ENSECAT00000015537
<i>Vicugna pacos</i>	<i>scd1</i>	Ensemble: ENSVPAP00000009395
	<i>scd5</i>	Ensemble: ENSVPAP00000002239
<i>Pteropus vampyrus</i>	<i>scd5</i>	Ensemble: ENSPVAG00000016815
<i>Bos taurus</i>	<i>scd5</i>	Ensemble: ENSBTAT00000025820
<i>Callithrix jacchus</i>	<i>scd5</i>	Ensemble: ENSCJAG00000017338
<i>Spermophilus tridecemlineatus</i>	<i>scd5</i>	Ensemble: ENSSTOG00000006758
<i>Cavia porcellus</i>	<i>scd5</i>	Ensemble: ENSCPOP00000002936
<i>Choloepus hoffmanni</i>	<i>scd5</i>	Ensemble: ENSCHOP00000003699
<i>Erinaceus europaeus</i>	<i>scd5</i>	Ensemble: ENSEEUT00000011642
