Supporting Information

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Table S1. Effect of caloric intake on life span

Genotype	O.D. 625 nm	
	Starved	Fed
w^{1118}/UAS-Mgat1;$Mgat1^{1}$/$Mgat1^{1}$;+/ELAV-GeneSwitch (−RU486)	0.204	0.157
w^{1118}/UAS-Mgat1;$Mgat1^{1}$/$Mgat1^{1}$;+/ELAV-GeneSwitch (+RU486)	0.209	0.162

The exact volume of a single meal of adult flies was determined for *Drosophila* using a diet that contains Blue No. 1 food dye. After feeding, the flies were homogenized and the amount of dye ingested was assayed with a spectrophotometer at a wavelength of 625 nm. Groups of 30 female flies, previously food deprived for 24 h (starved) or nonfood deprived (fed), were assayed. No differences in caloric intake were observed between control (−RU486) and experimental $Mgat1^{1}$-null flies expressing wild-type *Mgat1* in the CNS (+RU486), indicating that caloric intake is not a factor in the prolongation of life span.

Table S2. Dietary restriction in *Drosophila*

Genotype	Yeast, %	Mean life span	SD, days	SE
w^{1118}/UAS-Mgat1;$Mgat1^{1}$/$Mgat1^{1}$; +/ELAV-GeneSwitch (−RU486)	2	59.7	17.3	1.73
	4	76.1	20.8	2.08
	6	73.0	21.5	2.15
	8		21.8	2.18
w^{1118}/UAS-Mgat1;$Mgat1^{1}$/$Mgat1^{1}$; +/ELAV-GeneSwitch (+RU486)	2	117	33.7	3.37
	4	89.6	26.4	2.64
	6	89.7	27.9	2.79
	8	84.6	29.2	2.92
w^{1118};$Mgat^{+9}$/$Mgat^{+9}$ (wild type)	2	76.0	24.9	2.49
	4	75.2	24.8	2.48
	6	67.0	24.1	2.41
	8	67.7	23.7	2.37
w^{1118}/UAS-Mgat1;$Mgat^{+9}$/$Mgat^{+9}$; +/ELAV-GeneSwitch (−RU486)	2	125	14.7	1.47
	4	130	11.8	1.18
	8	136	11.2	1.12
	12	127	18.9	1.89
w^{1118}/UAS-Mgat1;$Mgat^{+9}$/$Mgat^{+9}$; +/ELAV-GeneSwitch (+RU486)	2	135	16.0	1.60
	4	133	11.9	1.19
	8	127	12.4	1.24
	12	123	11.1	1.11
w^{1118}/UAS-Mgat1;$Mgat^{+9}$/$Mgat^{+9}$ (no *GeneSwitch*)	2	103	14.4	1.44
	4	103	17.8	1.78
	8	98.9	15.7	1.57
	12	105	11.3	1.13
w^{1118};$Mgat^{+9}$/$Mgat^{+9}$;+/ELAV-GeneSwitch (no transgene)	2	84.5	14.3	1.43
	4	86.1	17.3	1.73
	8	95.1	14.8	1.48
	12	87.7	17.2	1.72

Mean life spans with SDs and SEs of adult *Drosophila* maintained on varying concentrations of dietary yeast are shown. All life span analyses were carried out with 100 flies.

Table S3. Comparison of life spans

Fly genotype	Days/% increase		References
	Mean	Maximum	
Mgat1 $^{-/-}$	11	15	Table 1, line E
Mgat1$^{-/-}$, transgene, −RU486	54	70	Table 1, line F
Mgat1$^{-/-}$, transgene, +RU486	127/135	165/136	Table 1, line G
Wild type	73	93	Table 1, line I
Wild type, transgene, −RU486	125	142	Table 1, line J
Wild type, transgene, +RU486	136/9	160/13	Table 1, line K
Superoxide dismutase (*SOD*)			(1)
Control	45	56	
SOD overexpression	64/42	73/30	
Protein carboxyl methyltransferase (*PCMT*)			(2)
Control	31	42	
PCMT overexpression	46/48	52/24	
Mutations of *insulin receptor* (*InR*) substrate *Chico*			(3)
Control	44	58	
InR mutation	65/48	85/47	
Mutations of *Indy* (*I'm Not Dead Yet*)			(4)
Control	48	62	
Indy mutation	76/58	90/45	
Mutations of *methuselah* (*mth*)			(5)
Control	57	75	
mth mutation	77/35	110/47	

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