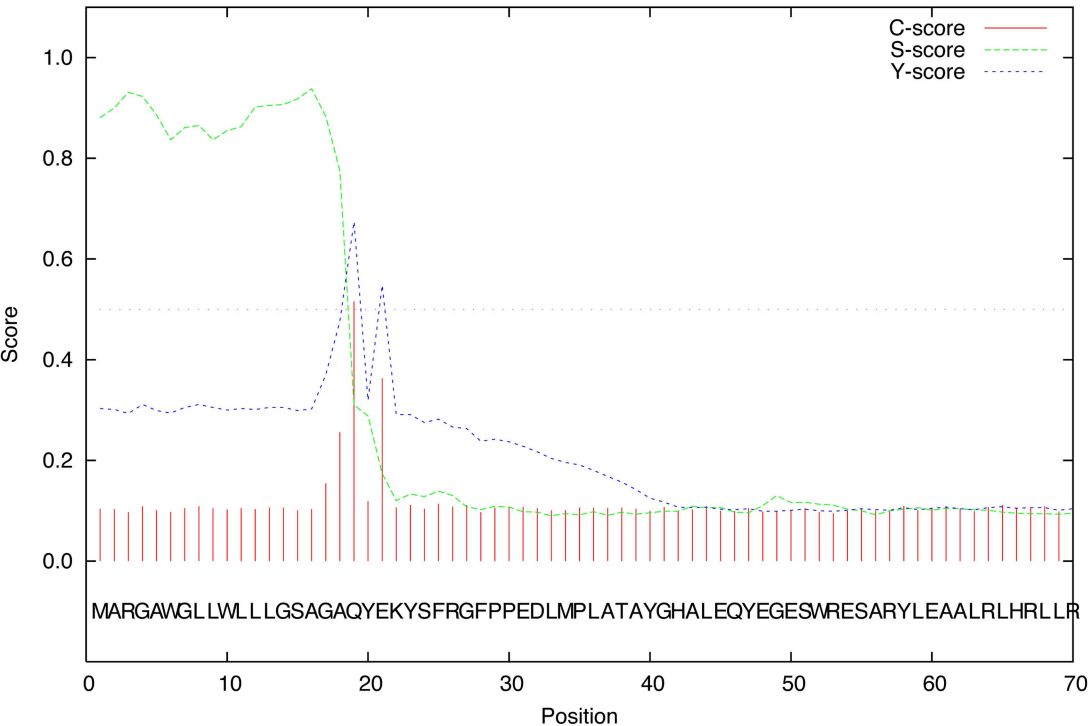


**A**

SignalP-4.1 prediction (euk networks): SC65



C-score (raw cleavage site score). The highest value indicate the site of cleavage of the predicted signal peptide. S-score (signal peptide score). Trained to distinguish positions within the signal peptide from position within the mature protein and from proteins lacking a signal peptide. Y-score (combined cleavage score). Trained to distinguish between C-score peakes which one corresponds to the point where the S-score slope is steep.

Name=SC65 SP='YES' Cleavage site between pos. 18 and 19: AGA-QY.  
Discrimination score (D)=0.786 D-cutoff=0.450. Networks=SignalP-noTM

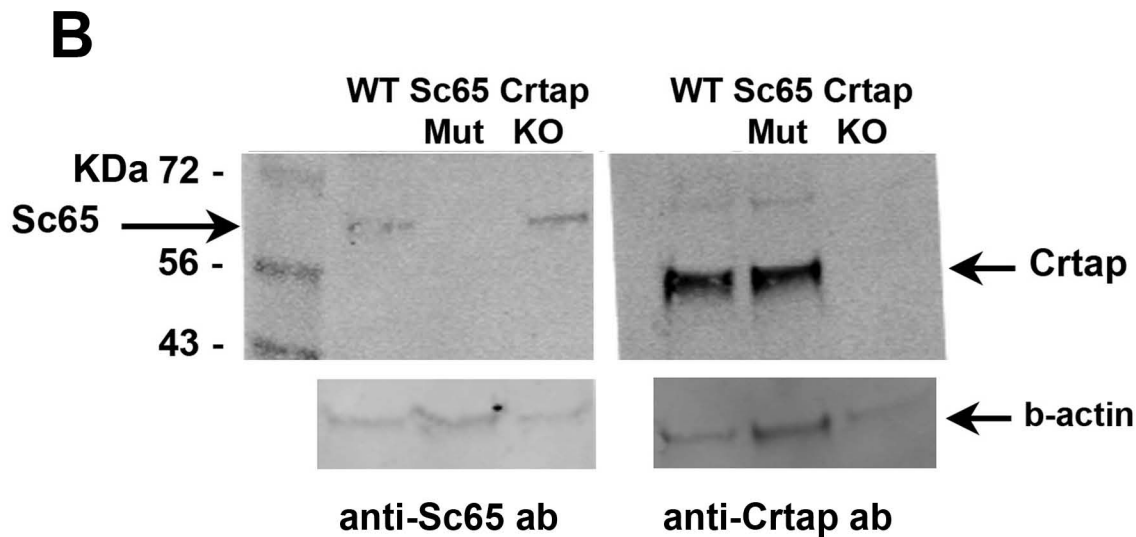
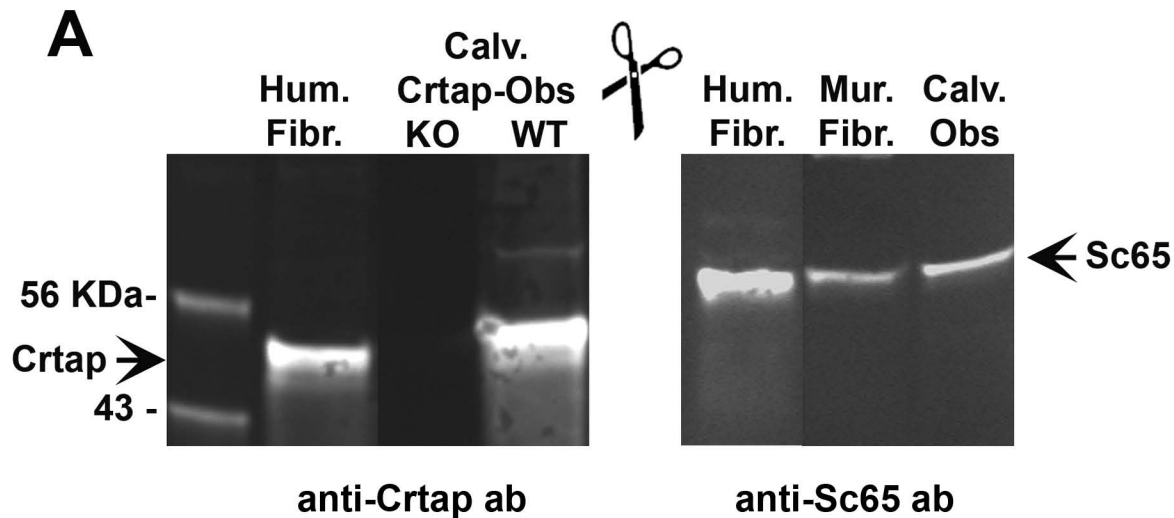
**B**

targetp v1.1 prediction results  
Number of query sequences: 1  
Cleavage site predictions included.  
Using NON-PLANT networks.

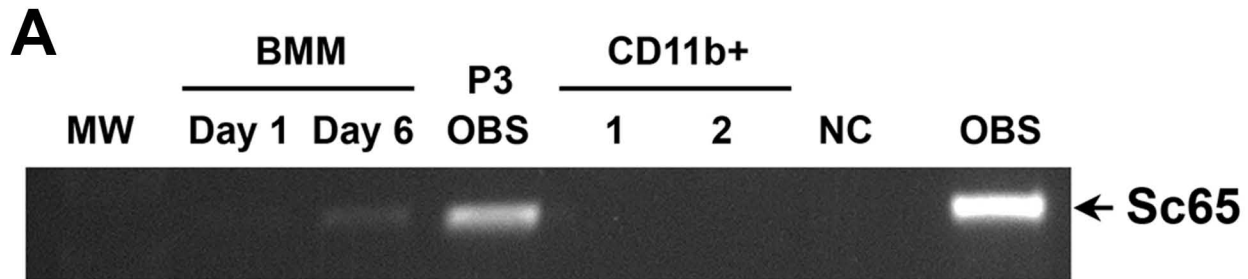
Name	Len	mTP	SP	other	Loc	RC	TPlen
Sequence	443	0.043	0.953	0.054	S	1	18
cutoff		0.000	0.000	0.000			

Len, Sequence length; mitochondrial targeting peptide, mTP; secretory pathway (SP); location (Loc); reliability class (RC), range 1-5, 1 represents the strongest prediction, predicted presequence length, TPlen.

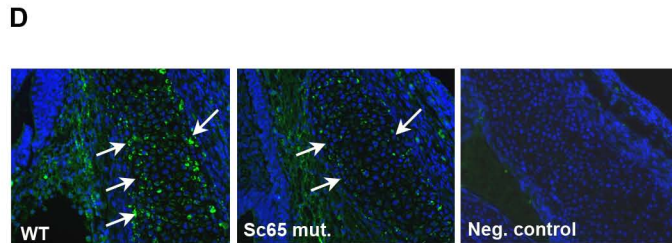
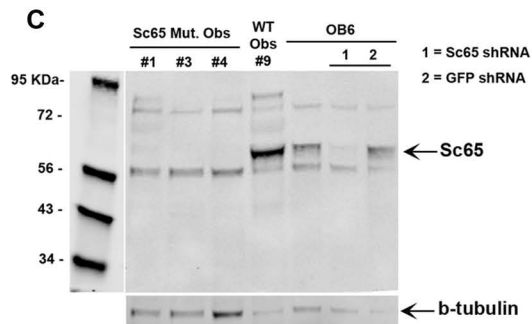
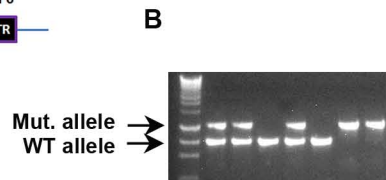
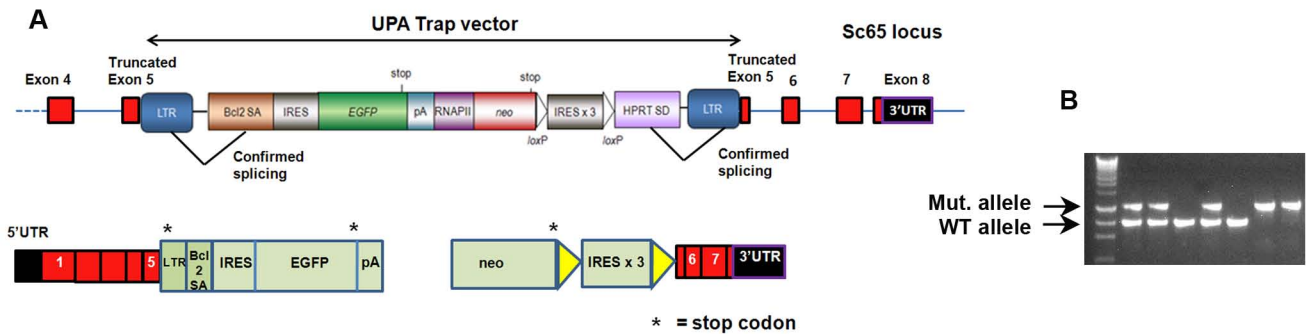
**Suppl. Figure 1**



Suppl. Figure 2



Suppl. Figure 3

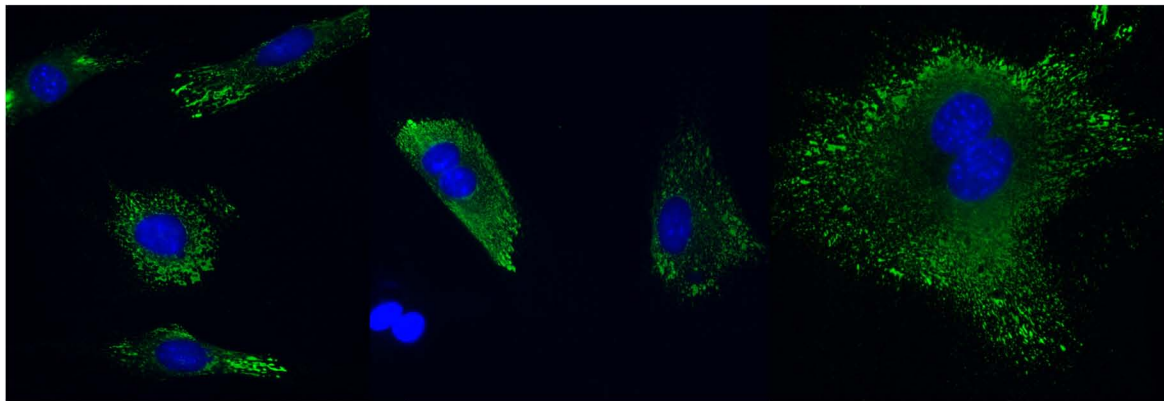


Suppl. Fig.4

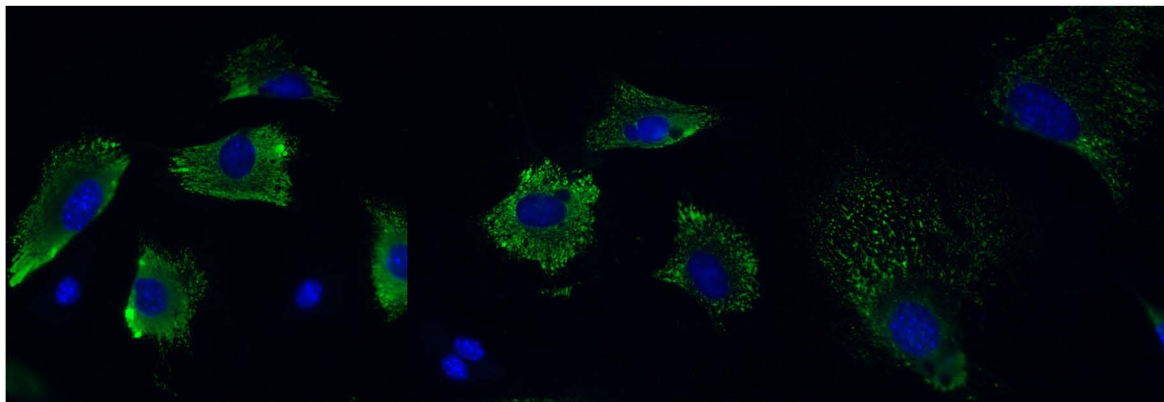
MALES	4 week-old (n=4)			10 week-old (n=6)			24 week-old (n=7)		
	WT	Sc65 Mut	p value	WT	Sc65 Mut	p value	WT	Sc65 Mut	p value
BV/TV (%)	14.98	14.75	0.94	22.87	16.25	<b>0.004</b>	22.63	15.37	<b>0.005</b>
Conn.Dens. (1/mm <sup>3</sup> )	178.16	191.30	0.83	228.39	163.39	<b>0.009</b>	99.86	50.25	<b>0.001</b>
SMI	2.49	2.59	0.62	1.90	2.32	0.052	1.51	2.11	<b>0.006</b>
Tb.N. (1/mm)	4.99	5.12	0.92	5.97	5.14	<b>0.002</b>	4.79	3.675	<b>0.003</b>
Tb.Th. (mm)	0.041	0.04	0.746	0.053	0.048	0.054	0.06	0.06	0.757
Tb.Sp. (mm)	0.206	0.207	0.985	0.156	0.181	<b>0.002</b>	0.199	0.275	<b>0.008</b>

FEMALES	10 week-old (n=5)			24 week-old (n=7)		
	WT	Sc65 Mut	p value	WT	Sc65 Mut	p value
BV/TV (%)	18.1	15.52	0.51	14.34	8.84	<b>0.014</b>
Conn.Dens. (1/mm <sup>3</sup> )	163.27	130.11	0.23	62.36	45.07	0.166
SMI	1.99	2.23	0.53	2.35	2.53	0.41
Tb.N. (1/mm)	4.89	4.27	0.12	3.53	2.81	<b>0.009</b>
Tb.Th. (mm)	0.05	0.05	1	0.06	0.06	0.927
Tb.Sp. (mm)	0.205	0.236	0.15	0.289	0.367	<b>0.009</b>

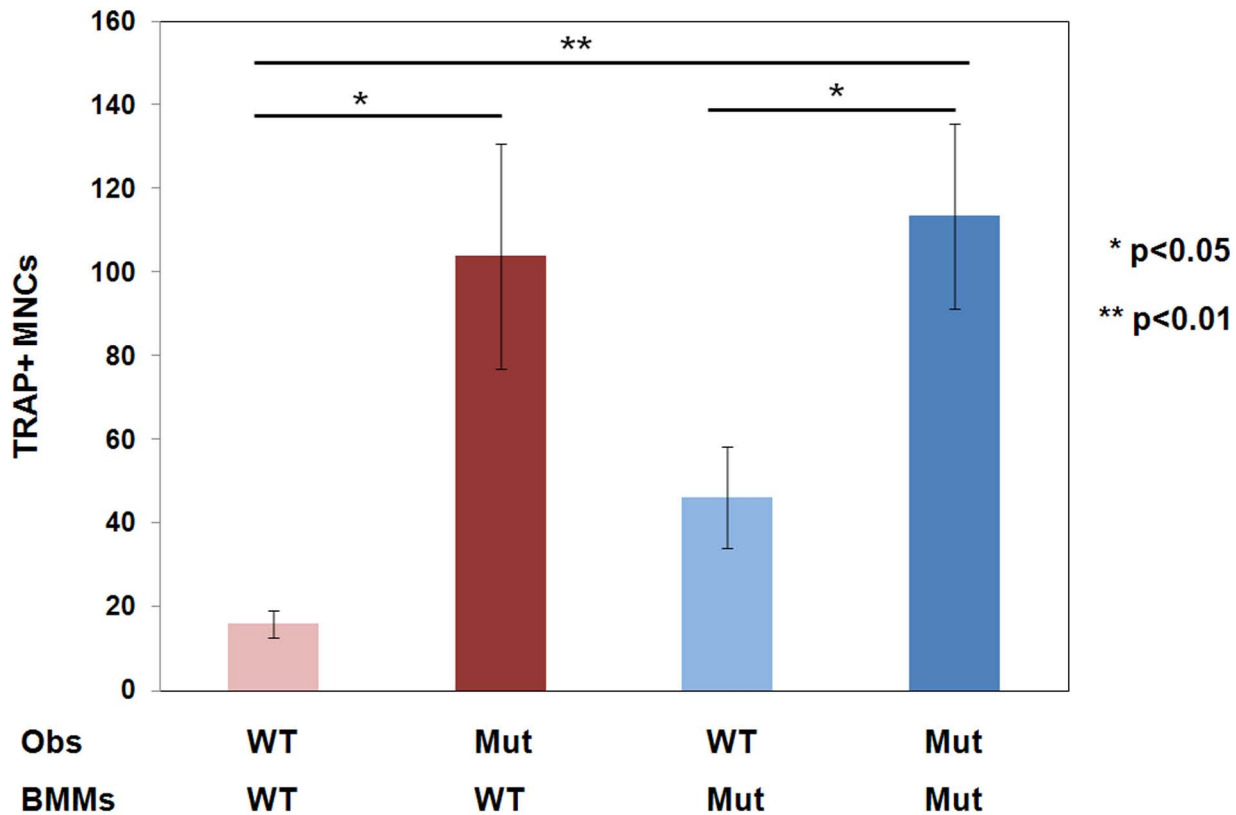
**WT**



**Sc65  
Mut**



**Suppl. Figure 6**



Suppl. Fig.7