Table 2 [Supplemental]: Summarized results

Effects of rSncb Treatment on Snca and Sncb Expression (Figure 1)							
Figure	**Approach**	**Method**	**Y-axis**	**Control**	**1ng/ml**	**50ng/ml**	**500ng/ml**
1 Q, R	Snca expression	WB	Relative optical density (in %)	100	69.94±19.55%, *p*=0.27	81,81±77,97%, *p*=0.79	44,3±20,92%, *p*=0.17
1 S	Snca expression	PCR	Relative Quotient	1.0	2.62±0.3 *p*=0.02	0.9±0.2, *p*=0.6	0.6±0.5, *p*=0.0008
1 S	Sncb expression	PCR	Relative Quotient	1.0	0.7±0.03, *p*=0.25	1.2±0.03, *p*=0.38	1.1±0.02, *p*=0.4
Cell Viability and Apoptosis (Figure 2)							
Figure	**Approach**	**Method**	**Y-axis**	**Control**	**1ng/ml**	**50ng/ml**	**500ng/ml**
2 A	Viability	MTT	Relative Viability (in %)	100	84.76±20.62%, *p*=0.36	64.76±10.33%, *p*=0.03	64.29±15.1%, *p*=0.04
2 B- H	Apoptosis	TUNEL	Relative TUNEL+ cells	1.0	55.71±13.53%, *p*=0.0008	151.61±35.9%, *p*=0.03	218.64±53.16%, *p*=0.006
n/a	Bax expression	PCR	Relative Quotient	1.0	1.15±0.19, *p*=0.2	1,05±0.14, *p*=0.5	0.91±0.25, *p*=0.53
n/a	Bcl-2 expression	PCR	Relative Quotient	1.0	0.77±0.27, *p*=0.19	0.65±0.22, *p*=0.048	0.58±0.25, *p*=0.04

2 l	Bax/Bcl-2 ratio	PCR	Relative Quotient	1.0	1.56±0.3, *p*=0.03	1.72±0.47, *p*=0.05	1.73±0.57, *p*=0.08
p53 and Mdm2 Expression Following Treatment with rSncb (Figure 3)							
Figure	**Approach**	**Method**	**Y-axis**	**Control**	**1ng/ml**	**50ng/ml**	**500ng/ml**
3 M, N	Cytoplasmatic p53 expression	WB	Relative optical density (in %)	100	103.5±3.8%, *p*=0.42	112.59±1.58%, *p*=0.056	110.68±17.54%, *p*=0.55
3 M, N	Nuclear p53 expression	WB	Relative optical density (in %)	100	227.68±64.79%, *p*=0.05	170±0.54%, *p*=0.003	103.35±47.88%, *p*=0.94
3 M, N	Cytoplasmatic Mdm2 expression	WB	Relative optical density (in %)	100	79.95±35.95%, *p*=0.28	63.41±31.16%, *p*=0.058	56.72±33.1%, *p*=0.042
3 O, P	Nuclear Mdm2 expression	WB	Relative optical density (in %)	100	78.61±11.99%, *p*=0.001	60.53±24.92%, *p*=0.003	48.7±35.0%, *p*=0.004
3 Q	Cytoplasmatic p53/Mdm2 ratio	PCR	Relative Quotient	1.0	1.29±0.11, *p*=0.13	1.78±0.1, *p*=0.03	1.95±0.53, *p*=0.01
3 Q	Nuclear p53/Mdm2 ratio	PCR	Relative Quotient	1.0	2.9±5.4, *p*=0.04	2.81±0.02, *p*=0.05	2.12±1.37, *p*=0.25
3 R	p53 expression levels	PCR	Relative Quotient	1.0	0.94±0.27, *p*=0.73	0.93±0.21, *p*=0.58	0.90±0.22, *p*=0.45
3 R	Mdm2 expression levels	PCR	Relative Quotient	1.0	0.17±0.02, *p*=0.0001	0.18±0.01, *p*<0.0001	0.17±0.06, *p*=0.002

p19(Arf) and Pld2 Levels After rSncb Treatment of BMECs							
Figure	**Approach**	**Method**	**Y-axis**	**Control**	**1ng/ml**	**50ng/ml**	**500ng/ml**
4 M, N	Cytoplasmatic p19(Arf) expression	PCR	Relative Quotient	1.0	76.29±15.32%, *p*=0.03	73.95±38.5%, *p*=0.2	43.43±26.47%, *p*=0.009
4 M, N	Nuclear p19(Arf) expression	PCR	Relative Quotient	1.0	160.9±20.89%, *p*=0.02	213.04±28.7%, *p*=0.001	237.48±16.07%, *p*=0.001
4 O	P19(Arf) expression levels	PCR	Relative Quotient	1.0	0.97±0.06, *p*=0.58	0.84±0.03, *p*=0.08	0.64±0.005, *p*=0.001
4 O	Pld2 expression levels	PCR	Relative Quotient	1.0	1.05±0.12, *p*=0.46	1.20±0.26; *p*=0.21	1.36±0.19, *p*=0.03
rSncb Effects on Akt Expression in BMECs (Figure 5)							
Figure	Approach	Method	Y-axis	Control	1ng/ml	50ng/ml	500ng/ml
5 O, P	Cytoplasmatic Akt expression	WB	Relative optical density (in %)	100	69.42±26.0%, *p*=0.09	54.38±11.78%, *p*=0.004	50.08±24.56%, *p*=0.03
5 O, P	Nuclear Akt expression	WB	Relative optical density (in %)	100	207.2±256.31%, *p*=0.7	44.8±50.3%, *p*=0.36	16.32±48.4%, *p*=0.25
5 Q, R	Cytoplasmatic pAkt expression	WB	Relative optical density (in %)	100	70.71±22.12%, *p*=0.08	63.4±10.51%, *p*=0.006	58.0±9.7%, *p*=0.02
5 Q, R	Nuclear pAkt expression	WB	Relative optical density (in %)	100	119.86±10.93%, *p*=0.04	134.97±27.62%, *p*=0.09	208.03±111.3%, *p*=0.15

Hmox and Nox4 Expression Following Treatment with rSncb (Figure 6)							
Figure	**Approach**	**Method**	**Y-axis**	**Control**	**1ng/ml**	**50ng/ml**	**500ng/ml**
6 J	Hmox expression levels	PCR	Relative Quotient	1.0	1.25±0.32, *p*=0.32	1.17±0.21, *p*=0.3	1.03±0.26, *p*=0.86
6 J	Gclc expression levels	PCR	Relative Quotient	1.0	1.01±0.13, *p*=0.91	0.91±0.08, *p*=0.21	0.78±0.23, *p*=0.24
6 J	Gclm expression levels	PCR	Relative Quotient	1.0	0.78±0.08, *p*=0.04	0.76±0.06, *p*=0.026	0.61±0.24, *p*=0.1
6 J	Nox4 expression levels	PCR	Relative Quotient	1.0	0.52±0.19, *p*=0.049	0.79±0.71, *p*=0.66	0.76±0.73, *p*=0.62

Sncb Knockdown (Figure 7)					
Figure	**Approach**	**Method**	**Y-axis**	**Control**	**siRNA**
7 I	Sncb expression levels	PCR	Relative Quotient (in %)	100	45.0, *p* =0.02
7 I	Snca expression levels	PCR	Relative Quotient (in %)	100	70±33%, *p* =0.97
7 J	Viability	MTT	Relative Viability (in %)	100	99.8±9.3%, *p* =0.98
7 K-Q	Apoptosis	TUNEL	Relative TUNEL+ cells (in %)	100±35.3%	23.5±11.24%, *p* =0.009

7 R	Bax/Bcl-2 ratio	PCR	Relative Quotient	1.0	1.32±0.22, *p*=0.004

WB; Western blot; PCR; Quantitative Real-Time Polymerase Chain Reaction; MTT; 3-(4,5- dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide; TUNEL; TdT-mediated dUTP nick end labelling; Snca; alpha-synuclein; Sncb; beta-synuclein; PLD-2, Phospholipase D-2; MDM-2, Mouse double minute 2 homolog; *p*53, cellular tumor antigen *p*53; Akt, RAC-alpha serine/threonine-protein kinase; *p*Akt, phosphorylated RAC-alpha serine/threonine-protein kinase