Table 2 [Supplemental]: Summarized results

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		Effects of	rSncb Treatment on Sr	ica and Sncb	Expression (Figur	e 1)	
Figure	Approach	Method	Y-axis	Control	1ng/ml	50ng/ml	500ng/ml
1 Q, R	Snca expression	WB	Relative optical	100	69.94±19.55%,	81,81±77,97%,	44,3±20,92%,
			density (in %)		<i>p</i> =0.27	<i>p</i> =0.79	<i>p</i> =0.17
1 S	Snca expression	PCR	Relative Quotient	1.0	2.62±0.3	0.9±0.2,	0.6±0.5,
					<i>p</i> =0.02	<i>p</i> =0.6	<i>p</i> =0.0008
1 S	Sncb expression	PCR	Relative Quotient	1.0	0.7±0.03,	1.2±0.03,	1.1±0.02,
					<i>p</i> =0.25	<i>p</i> =0.38	<i>p</i> =0.4
Figure							
rigure	Approach	Mothod	Varie	Control	1ng/ml	50ng/ml	500ng/ml
2 4	Approach	Method	<b>Y-axis</b>	Control	<b>1ng/ml</b>	<b>50ng/ml</b>	500ng/ml
2 A	Approach Viability	Method MTT	<b>Y-axis</b> Relative Viability (in	Control 100	<b>1ng/ml</b> 84.76±20.62%,	<b>50ng/ml</b> 64.76±10.33%,	<b>500ng/ml</b> 64.29±15.1%,
2 A	Approach Viability	Method MTT	Y-axis Relative Viability (in %)	Control 100	<b>1ng/ml</b> 84.76±20.62%, <i>p</i> =0.36	<b>50ng/ml</b> 64.76±10.33%, <i>p</i> =0.03	<b>500ng/ml</b> 64.29±15.1%, <i>p</i> =0.04
2 A 2 B- H	Approach Viability Apoptosis	Method MTT TUNEL	Y-axis Relative Viability (in %) Relative TUNEL+	<b>Control</b> 100 1.0	<b>1ng/ml</b> 84.76±20.62%, <i>p</i> =0.36 55.71±13.53%,	<b>50ng/ml</b> 64.76±10.33%, <i>p</i> =0.03 151.61±35.9%,	<b>500ng/ml</b> 64.29±15.1%, <i>p</i> =0.04 218.64±53.16%,
2 A 2 B- H	Approach Viability Apoptosis	Method MTT TUNEL	Y-axis Relative Viability (in %) Relative TUNEL+ cells	<b>Control</b> 100 1.0	1ng/ml     84.76±20.62%,     p=0.36     55.71±13.53%,     p=0.0008	<b>50ng/ml</b> 64.76±10.33%, <i>p</i> =0.03 151.61±35.9%, <i>p</i> =0.03	<b>500ng/ml</b> 64.29±15.1%, <i>p</i> =0.04 218.64±53.16%, <i>p</i> =0.006
2 A 2 B- H n/a	Approach Viability Apoptosis Bax expression	Method MTT TUNEL PCR	Y-axis Relative Viability (in %) Relative TUNEL+ cells Relative Quotient	Control 100 1.0 1.0	1ng/ml     84.76±20.62%,     p=0.36     55.71±13.53%,     p=0.0008     1.15±0.19,	<b>50ng/ml</b> 64.76±10.33%, <i>p</i> =0.03 151.61±35.9%, <i>p</i> =0.03 1,05±0.14,	<b>500ng/ml</b> 64.29±15.1%, <i>p</i> =0.04 218.64±53.16%, <i>p</i> =0.006 0.91±0.25,
2 A 2 B- H n/a	Approach Viability Apoptosis Bax expression	Method MTT TUNEL PCR	Y-axis Relative Viability (in %) Relative TUNEL+ cells Relative Quotient	Control     100     1.0     1.0	1ng/ml   84.76±20.62%,   p=0.36   55.71±13.53%,   p=0.0008   1.15±0.19,   p=0.2	<b>50ng/ml</b> 64.76±10.33%, <i>p</i> =0.03 151.61±35.9%, <i>p</i> =0.03 1,05±0.14, <i>p</i> =0.5	<b>500ng/ml</b> 64.29±15.1%, <i>p</i> =0.04 218.64±53.16%, <i>p</i> =0.006 0.91±0.25, <i>p</i> =0.53
2 A 2 B- H n/a n/a	Approach   Viability   Apoptosis   Bax expression   Bcl-2 expression	Method MTT TUNEL PCR PCR	Y-axis Relative Viability (in %) Relative TUNEL+ cells Relative Quotient Relative Quotient	Control 100 1.0 1.0 1.0	1ng/ml $84.76\pm20.62\%$ , $p=0.36$ $55.71\pm13.53\%$ , $p=0.0008$ $1.15\pm0.19$ , $p=0.2$ $0.77\pm0.27$ ,	<b>50ng/ml</b> 64.76±10.33%, <i>p</i> =0.03 151.61±35.9%, <i>p</i> =0.03 1,05±0.14, <i>p</i> =0.5 0.65±0.22,	<b>500ng/ml</b> 64.29±15.1%, <i>p</i> =0.04 218.64±53.16%, <i>p</i> =0.006 0.91±0.25, <i>p</i> =0.53 0.58±0.25,

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

p19(Arf) and PId2 Levels After rSncb Treatment of BMECs									
Figure	Approach	Method	Y-axis	Control	1ng/ml	50ng/ml	500ng/ml		
4 M, N	Cytoplasmatic	PCR	Relative Quotient	1.0	76.29±15.32%,	73.95±38.5%,	43.43±26.47%,		
	p19(Arf) expression				<i>p</i> =0.03	<i>p</i> =0.2	<i>p</i> =0.009		
4 M, N	Nuclear p19(Arf)	PCR	Relative Quotient	1.0	160.9±20.89%,	213.04±28.7%,	237.48±16.07%,		
	expression				<i>p</i> =0.02	<i>p</i> =0.001	<i>p</i> =0.001		
4 O	P19(Arf) expression	PCR	Relative Quotient	1.0	0.97±0.06,	0.84±0.03,	0.64±0.005,		
	levels				<i>p</i> =0.58	<i>p</i> =0.08	<i>p</i> =0.001		
4 O	Pld2 expression	PCR	Relative Quotient	1.0	1.05±0.12,	1.20±0.26;	1.36±0.19,		
	levels				<i>p</i> =0.46	<i>p</i> =0.21	<i>p</i> =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	WB	Relative optical	100	69.42±26.0%,	54.38±11.78%,	50.08±24.56%,		
	expression		density (in %)		<i>p</i> =0.09	<i>p</i> =0.004	<i>p</i> =0.03		
5 O, P	Nuclear Akt	WB	Relative optical	100	207.2±256.31%,	44.8±50.3%,	16.32±48.4%,		
	expression		density (in %)		<i>p</i> =0.7	<i>p</i> =0.36	<i>p</i> =0.25		
5 Q, R	Cytoplasmatic pAkt	WB	Relative optical	100	70.71±22.12%,	63.4±10.51%,	58.0±9.7%,		
	expression		density (in %)		<i>p</i> =0.08	<i>p</i> =0.006	<i>p</i> =0.02		
5 Q, R	Nuclear pAkt	WB	Relative optical	100	119.86±10.93%,	134.97±27.62%,	208.03±111.3%,		
	expression		density (in %)		<i>p</i> =0.04	<i>p</i> =0.09	<i>p</i> =0.15		

	I	Hmox and I	Nox4 Expression Follov	wing Treatme	nt with rSncb (Fig	ure 6)	
Figure	Approach	Method	Y-axis	Control	1ng/ml	50ng/ml	500ng/ml
6 J	Hmox expression	PCR	Relative Quotient	1.0	1.25±0.32,	1.17±0.21,	1.03±0.26,
	levels				<i>p</i> =0.32	<i>p</i> =0.3	<i>p</i> =0.86
6 J	Gclc expression	PCR	Relative Quotient	1.0	1.01±0.13,	0.91±0.08,	0.78±0.23,
	levels				<i>p</i> =0.91	<i>p</i> =0.21	<i>p</i> =0.24
6 J	Gclm expression	PCR	Relative Quotient	1.0	0.78±0.08,	0.76±0.06,	0.61±0.24,
	levels				<i>p</i> =0.04	<i>p</i> =0.026	<i>p</i> =0.1
6 J	Nox4 expression	PCR	Relative Quotient	1.0	0.52±0.19,	0.79±0.71,	0.76±0.73,
	levels				<i>p</i> =0.049	<i>p</i> =0.66	<i>p</i> =0.62
			Sncb Knock	down (Figure	7)		
Figure	Approach	Method	Y-axis	Control siRNA		RNA	
71	Sncb expression	PCR	Relative Quotient (in	100		45.0,	
	levels		%)			p =	=0.02
71	Snca expression	PCR	Relative Quotient (in	100		70±33%,	
	levels		%)			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+	10	0±35.3%	23.5±	11.24%,
			cells (in %)			p =	0.009

7 R	Bax/Bcl-2 ratio	PCR	Relative Quotient	1.0	1.32±0.22,
					<i>p</i> =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