

FIGURE LEGENDS

Supplemental Figure 1. Study flow chart of enrollment and outcomes of the trial

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### Supplemental Tables

#### Supplemental Table 1. Characteristics of female subjects at screening\*

Data are presented as the number (%) or median (interquartile range).

	<b>Antioxidants (n=85)</b>	<b>Placebo (n=86)</b>
Age (years)	31.0 (29.0, 35.0)	32.0 (29.0, 35.0)
Body mass index (kg/m <sup>2</sup> )	23.8 (21.6, 27.7)	24.2 (22.2, 27.7), n=83
Ethnicity		
Hispanic or Latino	5 (5.9)	7 (8.1)
Non-Hispanic	77 (90.6)	76 (88.4)
Unknown	3 (3.5)	3 (3.5)
Race		
White	69 (81.2)	67 (77.9)
Black	6 (7.1)	7 (8.1)
Asian	8 (9.4)	5 (5.8)
American Indian or Alaska Native	1 (1.2)	0 (0.0)
Native Hawaiian or Other Pacific Islander	0 (0)	1 (1.2)
Unknown	0 (0)	2 (2.3)
Mixed Race	1 (1.2)	4 (4.7)

\* There were no significant differences (P<0.05) between the two groups.

**Supplemental Table 2. Plasma vitamin levels by treatment group**

Visit	Items	Group	N	Mean	Standard Deviation	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile
Randomization (Visit 1)	Selenium (ug/L)	Total	124	160.3	19.8	156.5	146.0	174.0
		Antioxidant	62	158.2	19.1	154.5	143.0	170.0
		Placebo	62	162.4	20.4	160.0	148.0	176.0
	Vit E- $\alpha$ Tocopherol (mg/L)	Total	131	9.6	2.7	9.5	8.0	10.7
		Antioxidant	64	9.7	2.8	9.6	8.1	11.1
		Placebo	67	9.6	2.7	9.5	7.8	10.5
	Vit E- $\gamma$ Tocopherol (mg/L)	Total	131	1.3	0.7	1.2	0.8	1.7
		Antioxidant	64	1.4	0.7	1.2	1.0	1.7
		Placebo	67	1.2	0.6	1.1	0.8	1.7
Zinc (ug/dL)	Total	128	89.3	12.1	88.0	81.5	96.0	
	Antioxidant	65	89.5	11.7	88.0	82.0	96.0	
	Placebo	63	89.1	12.6	88.0	80.0	96.0	
After 3 months of treatment (Visit 3)	Selenium (ug/L)	Total	124	189.6	37.1	186.0	156.5	219.5
		Antioxidant	62	217.5	27.5	218.0	194.0	235.0
		Placebo	62	161.6	20.6	156.5	147.0	172.0
	Vit E- $\alpha$ Tocopherol (mg/L)	Total	131	12.1	4.4	11.4	8.9	14.2
		Antioxidant	64	14.8	4.3	14.0	12.0	16.7
		Placebo	67	9.4	2.5	9.1	7.6	10.6
	Vit E- $\gamma$ Tocopherol (mg/L)	Total	131	0.9	0.6	0.8	0.5	1.2
		Antioxidant	64	0.6	0.3	0.6	0.3	0.8
		Placebo	67	1.2	0.6	1.2	0.8	1.4
Zinc (ug/dL)	Total	128	90.6	14.2	89.0	82.5	98.0	
	Antioxidant	65	93.4	13.6	92.0	86.0	102.0	
	Placebo	63	87.7	14.3	85.0	80.0	94.0	
Visit 3 – Visit 1	Selenium (ug/L)	Total	124	29.3	34.4	27.0	-0.5	60.0
		Antioxidant	62	59.3	20.1	60.0	44.0	72.0

	Placebo	62	-0.8	12.3	-0.5	-10.0	5.0
Vit E- $\alpha$ Tocopherol (mg/L)	Total	131	2.4	3.5	1.5	-0.4	4.6
	Antioxidant	64	5.1	2.9	4.7	3.4	6.8
	Placebo	67	-0.2	1.4	-0.2	-1.1	0.8
Vit E- $\gamma$ Tocopherol (mg/L)	Total	131	-0.4	0.7	-0.4	-0.8	0.1
	Antioxidant	64	-0.8	0.6	-0.7	-1.1	-0.4
	Placebo	67	0.0	0.5	0.0	-0.3	0.2
Zinc (ug/dL)	Total	128	1.3	12.6	1.5	-5.5	8.0
	Antioxidant	65	3.9	12.1	4.0	-4.0	10.0
	Placebo	63	-1.4	12.7	-1.0	-9.0	5.0

**Supplemental Table 3. Live birth rate by sperm morphology category or male prior pregnancy history status.**  
Data presented as number/total number (%).

	<b>Antioxidants</b>	<b>Placebo</b>	<b>P value</b>
Normal morphology			
≤4%	3/33 (9.1)	5/19 (26.3)	0.124
>4%	7/30 (23.3)	13/44 (29.6)	0.555
Missing	3/22 (13.6)	3/23 (13.0)	1.000
Fathered a prior pregnancy			
Yes	2/25 (8.0)	9/38 (23.7)	0.176
No	11/60 (18.3)	12/48 (25.0)	0.400

**Supplemental Table 4. Adverse Events and Serious Adverse Events According to Treatment groups.  
Data are presented as the number (%)**

Events	Antioxidants (n=85)	Placebo (n=86)	p value
<b>Overall adverse events for couples*</b>			
≥1 Serious adverse event	4 (4.7)	6 (7.0)	0.746
≥1 Adverse event	51 (60.0)	59 (68.6)	0.240
<b>Adverse events for males^</b>			
Abdominal pain	0 (0)	4 (4.7)	0.121
Dyspepsia	4 (4.7)	2 (2.3)	0.443
Headache	15 (17.6)	7 (8.1)	0.063
Nasopharyngitis	4 (4.7)	7 (8.1)	0.535
Nausea	1 (1.2)	4 (4.7)	0.368
Upper respiratory infection	4 (4.7)	4 (4.7)	1.000

\*Including any events from men, women, or fetus/infant.

^Including adverse events that were observed in at least 4% of men in any of the treatment groups.

**Supplemental Table 5. Pregnancy outcomes by treatment group (Per protocol analysis).**

Data presented as number/total number (%).

	<b>Antioxidants</b>	<b>Placebo</b>	<b>P value</b>
Live birth	13/67(19.4)	21/77(27.3)	0.267
Singleton live birth	11/67(16.4)	16/77(20.8)	0.504
Twin or triple live birth	2/67(3.0)	5/77(6.5)	0.450
Conception	18/67(26.9)	26/77(33.8)	0.370
Phase I	8/67(11.9)	8/77(10.4)	0.768
Phase II	10/67(14.9)	18/77(23.4)	0.201
Clinical pregnancy	15/67(22.4)	22/77(28.6)	0.397
Pregnancy loss	4/18 (22.2)	5/26 (19.2)	1.000

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