

APPENDIX A: DESCRIPTION OF DATA SET

A Phase IIb clinical trial was conducted at the University of California, Irvine, in which volunteers with a history of colon polyps (a potential precursor lesion of colon cancer) were randomized in a double blind fashion to receive one of four doses of DFMO (0, 0.075, 0.2, or 0.4 g/sq m/day) for 12 months. Colon biopsies were obtained at the beginning of treatment, after 6 months of treatment, at the end of 12 months of treatment, and after 3 months of being off treatment (so 15 months after the start of the study). These biopsies were then measured for their polyamine levels (putrescine, spermine, and spermidine), which are expressed as micromoles per milligram of protein. The scientific hypothesis is that DFMO will tend to lower polyamine levels.

Variables used in the following analyses include

- **dose**: dose group the patient was randomized to
- **put0**: putrescine (micromole/mg protein) at baseline
- **put6**: putrescine (micromole/mg protein) after 6 months of treatment
- **put12**: putrescine (micromole/mg protein) after 12 months of treatment
- **spd0**: spermidine (micromole/mg protein) at baseline
- **spd12**: spermidine (micromole/mg protein) after 12 months of treatment

From those variables, the following additional variables were computed

- **highdose**: indicator that the patient was in the 0.4 dose group
- **spddiff**: 12 month difference in spermidine levels-12 months minus baseline (micromole/mg protein)

APPENDIX B: ANALYSES OF SPERMIDINE LEVELS

Descriptive Statistics for Baseline Spermidine by Dose Group

➤ strdescr (spd0, dose)

	n	msng	mean	std dev	min	25%-ile	median	75%-ile	maximum
all	114	0	3.410	1.553	0.660	2.271	2.957	4.267	7.600
0	32	0	3.262	1.451	1.398	2.090	2.934	4.148	7.054
0.075	29	0	3.474	1.551	1.509	2.290	2.910	4.617	7.017
0.2	25	0	3.350	1.329	1.700	2.423	2.924	4.010	6.218
0.4	28	0	3.565	1.885	0.660	2.178	3.084	4.493	7.600

Descriptive Statistics for 12 Month Spermidine by Dose Group

➤ strdescr (spd12, dose)

	n	msng	mean	std dev	min	25%-ile	median	75%-ile	maximum
all	114	19	2.769	1.234	0.000	1.988	2.553	3.502	6.454
0	32	4	3.256	1.314	1.013	2.280	2.816	4.187	5.910
0.075	29	3	2.920	0.994	1.352	2.160	2.859	3.623	4.923
0.2	25	4	2.712	1.395	0.293	1.757	2.509	3.777	6.454
0.4	28	8	1.950	0.799	0.000	1.576	1.929	2.378	3.417

Descriptive Statistics for Change in Spermidine by Dose Group

➤ strdescr (spddiff, dose)

	n	msng	mean	std dev	min	25%-ile	median	75%-ile	maximum
all	114	19	-0.620	1.775	-5.481	-1.664	-0.335	0.720	2.528
0	32	4	-0.041	1.533	-3.201	-1.265	0.338	1.025	2.528
0.075	29	3	-0.412	1.372	-3.134	-1.265	-0.305	0.572	2.224
0.2	25	4	-0.567	1.728	-4.236	-1.763	-0.283	0.623	2.431
0.4	28	8	-1.756	2.171	-5.481	-3.434	-1.075	-0.254	1.457

Linear regression of 12 Month Spermidine by High Dose Group and Baseline

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> summary (lm (spd12 ~ highdose + spd0, subset=dose==0 | dose==0.4,
+ na.action=na.omit) )
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	Value	Std. Error	t value	Pr(> t)
(Intercept)	2.1672	0.3876	5.5915	0.0000
highdose	-0.6786	0.1657	-4.0952	0.0002
spd0	0.1244	0.1003	1.2409	0.2211

Residual standard error: 1.123 on 45 degrees of freedom

Multiple R-Squared: 0.2779

F-statistic: 8.66 on 2 and 45 degr of freedom, the p-value is 0.0006581
12 observations deleted due to missing values

APPENDIX C: ANALYSES OF PUTRESCINE LEVELS

Descriptive Statistics for Baseline Putrescine by Dose Group

➤ strdescr (put0, dose)

	n	msng	mean	std dev	min	25%-ile	median	75%-ile	maximum
all	114	0	0.648	0.486	0.000	0.358	0.569	0.793	2.588
0	32	0	0.665	0.441	0.061	0.341	0.568	0.838	1.975
0.075	29	0	0.655	0.522	0.009	0.358	0.537	0.795	2.588
0.2	25	0	0.611	0.418	0.000	0.399	0.595	0.729	1.964
0.4	28	0	0.654	0.570	0.000	0.400	0.596	0.768	2.300

Descriptive Statistics for 6 Month Putrescine by Dose Group

➤ strdescr (put6, dose)

	n	msng	mean	std dev	min	25%-ile	median	75%-ile	maximum
all	114	8	0.600	0.953	0.00	0.244	0.431	0.686	9.135
0	32	2	1.055	1.593	0.05	0.551	0.719	0.909	9.135
0.075	29	1	0.470	0.267	0.00	0.295	0.487	0.595	1.053
0.2	25	2	0.453	0.542	0.00	0.227	0.273	0.432	2.432
0.4	28	3	0.333	0.432	0.00	0.006	0.194	0.404	1.726

Descriptive Statistics for 12 Month Putrescine by Dose Group

➤ strdescr (put12, dose)

	n	msng	mean	std dev	min	25%-ile	median	75%-ile	maximum
all	114	19	1.000	1.022	0.000	0.333	0.633	1.462	5.484
0	32	4	1.158	0.835	0.000	0.528	0.904	1.817	3.180
0.075	29	3	1.085	1.027	0.036	0.389	0.692	1.398	4.285
0.2	25	4	0.796	0.789	0.000	0.342	0.510	0.794	3.212
0.4	28	8	0.882	1.424	0.000	0.000	0.401	0.706	5.484