

TestDiet® 21st Century Western Diet™ Series for Rodents -- calorie-balanced method, based on AIN-93G

SERIES DESCRIPTION: These diets are based on the AIN-93G rodent diet, which provides optimal protein and fat, a variety of carbohydrate sources, and appropriate vitamins and minerals. In this diet series, the basic AIN diet parameters have been modified to include both corn oil and soy oil as sources of essential fatty acids; three different sources of saturated fats rather than just lard; and, as sources of fiber, inulin (soluble) in addition to the customary cellulose (insoluble).

The objective is to mimic "typical" human "western" diets (North American/European).

"CALORIE-BALANCED": This "calorie-balanced" approach is becoming the method of choice in most studies. It recognizes that animals tend to eat "to quantify" rather than "to calorie" and it is important to assure that when the same amount of calories are consumed that approximately the same amount of micronutrients, fiber, protein and, in this case, cholesterol are consumed. In any event, using a "calorie-balanced" diet assures that the subjects' basic nutritional requirements are not compromised.

CUSTOM MODIFICATIONS: If the researcher prefers, these formulas can be infinitely modified e.g., the amount of cholesterol can be maintained at a constant 0.15% (or whatever level), the percentage of fiber by weight can be made approximately constant, or the TBHQ preservative can be removed (most purified diets do not contain it). Furthermore, while the color-coding can be very advantageous in conducting the studies, collecting the data, and reporting the results, it can be removed.

	TestDiet® 5TJM	TestDiet® 5TJN	TestDiet® 5TJS	TestDiet® 5TLN	TestDiet® 5TJP	TestDiet® 5TJQ	TestDiet® 5TJR	TestDiet® 5TJT	TestDiet® 5TJU	TestDiet® 5TVW	TestDiet® 5TVX
TITLE:	"Western" Diet	Low-Fat Western Diet (Control)	"American" Diet	Atkins-type Western Diet, based on AIN-93G	High-Fat Ketogenic Rodent Diet (No Carbohydrates)	High-Protein Ketogenic Rodent Diet (No Carbohydrates)	High-Cholesterol (1%) Western Diet	Very-High-Protein/Moderate-Fat/Low-Carb Western Diet	South Beach-Type Diet	South Beach-Type Normal Fat & Protein Control Diet, with levels of fat and protein.	
DIET DESCRIPTION:	A "Western" Diet, providing approximate energy (kcal) from fat 40%, carbohydrate 44%, protein 16%, and for fiber, both inulin (soluble) and cellulose (insoluble).	A low-fat diet based on AIN-93G. Approximate energy (kcal) from fat 12%, carbohydrate 72%, protein 16%. (Protein:Fat=4:3)	Based on energy distribution in a "typical American diet" as described in: Freedman MR, King J, Kennedy E. Popular Diets: A Scientific Review. Obesity Research. (March) 2001; 9(Suppl. 1):1S-40S, (Table 3 at 3S).	An "Atkins-type" diet based on AIN-93G, with approx. energy (kcal) from protein 28%, fat 56%, and carbohydrate 16%. (Protein:Fat = 1:2)	A high-fat Ketogenic diet based on AIN-93G, with all carbohydrates removed.	A high-protein Ketogenic diet, with all carbs removed. Approx. energy: fat 67%, carb 0%, protein 33%. Sodium cholate added to facilitate cholesterol absorption. *Atkins-type diet, but no carbs.)	Approx. energy (kcal) from fat 40%, carbohydrate 44%, protein 16%. (Protein:Fat= 2:5) 1% Cholesterol added. Sodium cholate added to facilitate cholesterol absorption.	A Very-High-Protein/Moderate-Fat diet, with approximate energy (kcal) from protein 38%, fat 40%, and carbohydrate 22%. (Protein:Fat= 1:1)	50% kcal protein, 40% kcal fat, 10% kcal carbohydrate. Animal fat removed, saturated fats reduced, and unsaturated increased. Simple carbohydrates replaced with more complex carbs. Fiber increased.	Control diet for the South Beach-type diet with normal levels of fat and protein.	
Forms: >>>	pellet, meal	pellet, meal	pellet, meal	pellet, meal	dough consistency	dough consistency	pellet, meal	pellet, meal	pellet, meal	pellet, meal	
Color Code:	RED	GREEN	RED	BLUE	LT ORANGE	DK ORANGE	YELLOW	PURPLE	BLUE	GREEN	
Protein	19.3%	16.4%	15.0%	28.3%	16.1%	33.6%	16.1%	38.3%	50.0%	20.0%	
Fat	16.2%	12.4%	34.6%	55.8%	83.9%	66.4%	40.9%	39.9%	40.0%	16.0%	
Carbohydrate	65.1%	71.9%	50.4%	16.1%	0.0%	0.0%	43.4%	22.0%	10.0%	64.0%	
Protein	gm%	gm%	gm%	gm%	gm%	gm%	gm%	gm%	gm%	gm%	
Fat	18.3%	15.8%	16.4%	34.6%	24.1%	43.9%	18.2%	41.8%	53.0%	19.2%	
Carbohydrate	7.0%	5.3%	16.8%	30.3%	57.3%	38.5%	20.6%	19.4%	18.8%	6.8%	
Approx. Fiber	62.9%	68.9%	55.1%	19.7%	0.0%	0.0%	49.1%	24.1%	10.6%	61.4%	
Cholesterol %	7.00%	6.00%	6.80%	7.60%	9.60%	8.10%	6.90%	6.80%	8.92%	8.08%	
kcal/gm	0.008%	0.132%	0.163%	0.196%	0.268%	0.216%	0.102%	0.166%	0.000%	0.000%	
	3.87	3.84	4.36	4.890	6.15	5.23	4.52	4.37	4.24	3.84	
Ingredient	%	%	%	%	%	%	%	%	%	%	
Casein	19.9997%	16.8093%	17.6297%	37.7492%	27.2279%	48.1218%	19.5918%	45.6170%	58.0134%	20.3523%	
L-Cystine	0.3000%	0.2521%	0.2644%	0.5662%	0.4084%	0.7218%	0.2939%	0.6843%	0.8702%	0.3053%	
Corn Starch	39.7491%	43.5091%	34.7922%	12.4434%	30.9942%	30.9942%	30.9942%	15.1951%	10.7230%	62.0281%	
Dextrin	13.1998%	14.4482%	11.5536%	4.1322%	10.2925%	7.7973%	10.2925%	5.0459%	0.0000%	0.0000%	
Sucrose	10.0000%	10.9456%	8.7527%	3.1304%	7.7973%	2.4613%	7.7973%	3.8227%	0.0000%	0.0000%	
Cellulose	2.5000%	2.1117%	2.4066%	2.7080%	3.4206%	2.8989%	2.4613%	2.4126%	3.2635%	2.9557%	
Inulin	2.5000%	2.1117%	2.4066%	2.7080%	3.4206%	2.8989%	2.4613%	2.4126%	3.2635%	2.9557%	
Soy Oil	0.1909%	0.4454%	1.2713%	1.0726%	1.5801%	1.0617%	0.5401%	0.5307%	6.9932%	2.5673%	
Corn Oil	0.1909%	0.4454%	1.2713%	1.0726%	1.5801%	1.0617%	0.5401%	0.5307%	6.9932%	2.5673%	
Crisco	2.1212%	1.5536%	1.5536%	9.2594%	17.5567%	11.7967%	6.0006%	5.8963%	4.8486%	1.7115%	
Milk Fat, Anhydrous	2.1212%	1.5536%	1.5536%	9.2594%	17.5567%	11.7967%	6.0006%	5.8963%	4.8486%	1.7115%	
Lard	2.1212%	1.5536%	1.5536%	9.2594%	17.5567%	11.7967%	6.0006%	5.8963%	4.8486%	1.7115%	
Cholesterol	0.0000%	0.1489%	0.1444%	0.1625%	0.2052%	0.1739%	0.0000%	0.0000%	0.0000%	0.0000%	
AIN-93G Mineral Mix w/FIBER CARRIER	3.5000%	3.4045%	3.8799%	4.3658%	5.5147%	4.6736%	3.9681%	3.8895%	3.7582%	3.4037%	
AIN-93 Vitamin Mix w/FIBER CARRIER	1.0000%	0.9788%	1.1155%	1.2552%	1.5855%	1.3437%	1.1409%	1.1183%	1.0805%	0.9786%	
Choline Bitartrate	0.2500%	0.1689%	0.1925%	0.2166%	0.2736%	0.2319%	0.1969%	0.1930%	0.1885%	0.1689%	
T-Butylhydroquinone	0.0015%	0.0015%	0.0014%	0.0015%	0.0014%	0.0014%	0.0015%	0.0014%	0.0014%	0.0013%	
Yellow Color	0.0025%	0.0025%	0.0048%	0.0048%	0.0036%	0.0014%	0.0049%	0.0025%	0.0000%	0.0021%	
Red Color	0.0025%	0.0025%	0.0048%	0.0048%	0.0036%	0.0014%	0.0049%	0.0025%	0.0000%	0.0021%	
Blue Color	0.0025%	0.0025%	0.0048%	0.0048%	0.0036%	0.0014%	0.0049%	0.0025%	0.0000%	0.0021%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Comparative Nutrient Values	gm	gm	gm	gm	gm	gm	gm	gm	gm	gm	
Per 1000 kcal (gm)	258.4	260.4	229.4	204.5	162.6	191.2	221.2	228.8	235.8	260.4	
Total Diet	48.1	41.1	37.6	70.8	39.2	83.9	40.3	95.7	125.0	50.0	
Protein	18.1	13.8	38.5	62.0	93.2	73.6	45.6	44.4	44.3	17.7	
Fat	162.5	179.4	126.4	40.3	0.0	0.0	108.6	55.1	25.0	159.9	
Carbohydrate	9.0	8.9	8.9	8.9	2.6	2.6	8.8	8.9	8.9	8.9	
Mineral Mix	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	
Vitamin Mix	17.6	15.6	15.6	15.6	15.6	15.3	15.3	15.6	15.6	21.0	
Fiber											