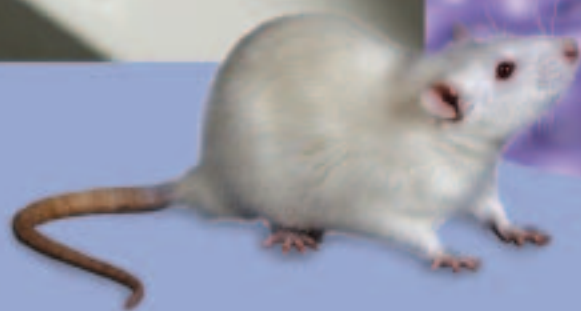
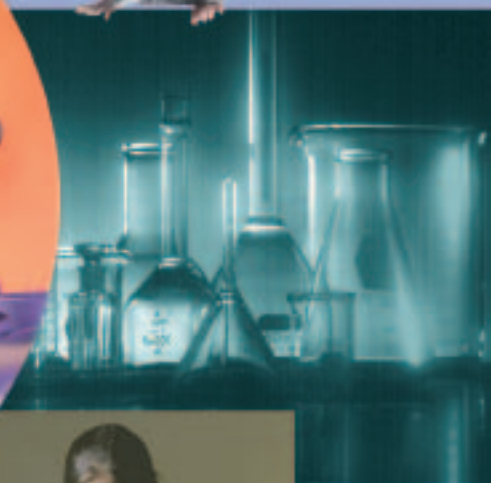
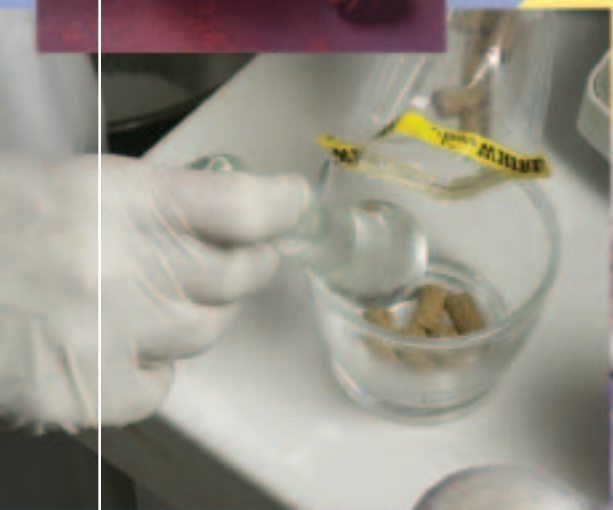
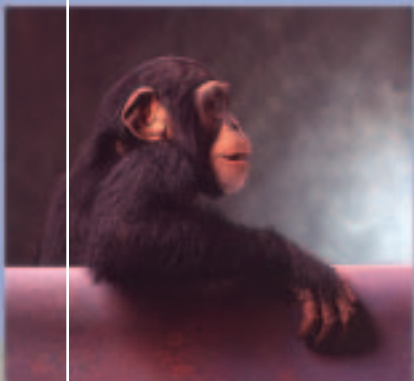


 **TestDiet**<sup>®</sup>

*Fresh from our lab to yours.*<sup>™</sup>



Purified Ingredient &  
Custom Grain-Based Diets for  
Laboratory Animal Research



For the most complete and up-to-date information,  
visit [www.TestDiet.com](http://www.TestDiet.com)

## How to Contact TestDiet® and Place an Order

Email	Info@TestDiet.com	Postal Address	TestDiet® Division of LabDiet®
Telephone	1.765.966.1885		505 North 4th Street
Fax	1.765.935.0241		Richmond, IN 47374 USA

**When communicating**, please provide your complete name, address, phone number, fax number, and email address. Also, include your title, department, and institution.

**When requesting diet or nutrition consultation**, please indicate:

- focus of your study (e.g., obesity, diabetes, toxicology, cardiology, etc.);
- species and strain of animal;
- number of animals;
- duration of study;
- characteristics of the diet(s) you seek, with as much specificity as possible (e.g., “60% kcal from lard and a control diet with 12% kcal lard” rather than simply “high-fat diet”); and,
- any prior research literature references that may apply.

**When ordering**, please provide:


- your complete name, address, phone number, fax number and email address;
- the Product Number and/or Formula Number of the product(s) you are ordering;
- the form of the diet (pellet, powder, liquid, tablet); and,
- the quantity in kilograms.

**For questions about LabDiet® products**, please contact the LabDiet® Customer Service Department at 1.765.962.9561 or visit our Web site at [www.LabDiet.com](http://www.LabDiet.com).



## Setting the Standard for over 100 Years!

<b>1894</b>	Purina Mills founded
<b>1917</b>	LongView Animal Nutrition Center established in Gray Summit, Missouri, USA
<b>1930s</b>	Purina begins investigating the unique dietary needs of lab animals
<b>1942</b>	LabDiet® 5001 Rodent Diet introduced—first diet specifically for laboratory research animals
<b>1960</b>	Complete nutritional information published for all LabDiet® products
<b>1970s</b>	Certified LabDiet® introduced — first to comply with GLP standards
<b>1970s</b>	TestDiet® division created to specialize in custom & purified diets
<b>1984</b>	PicoLab® introduced — first irradiated diets for laboratory research animals
<b>1996</b>	Richmond plant achieves industry's first ISO certification
<b>1997</b>	A new TestDiet® custom diet facility is built, achieves ISO certification
<b>1998</b>	Micro-Pack™ Portion Control introduced
<b>1999</b>	DentaGuard™ introduced — first additive to prevent dental calculus
<b>2003</b>	LabDiet® Advanced Protocol™ introduced
<b>2003</b>	TestDiet® Diet-Induced Obesity (DIO) series introduced
<b>2004</b>	LabDiet becomes the first “Titanium” corporate sponsor of The Jackson Laboratory



Fresh from our lab to yours™ . . .  
More than 100 years of professional expertise, excellent service,  
and impeccable quality  
. . . formulating specialty laboratory animal diets  
for data you can trust.™

The TestDiet® division of LabDiet® has a long heritage as part of Purina Mills, LLC / PMI® Nutrition International. TestDiet® animal nutrition experts consult with researchers to custom formulate and produce purified ingredient and grain-based diets for animal research in academic, government, and pharmaceutical laboratories around the world. Our scientists also conduct nutrition research in our own laboratories.

All diets are produced under the strict requirements of the International Standards Organization (ISO 9001:2000), which meet or exceed the demands of Good Manufacturing Practices and Good Laboratory Practices. In fact, TestDiet® operates the cleanest, most efficient, most comprehensive GMP compliant, GLP compatible, ISO certified lab animal diet production facility in the world to produce any and every custom diet formula presently or previously available from any manufacturer.

**Visit our Web site — [www.TestDiet.com](http://www.TestDiet.com) — for more details, hundreds of formula sheets, and up-to-date information.**

## Sound Reasons to Choose TestDiet®—

**Experience & Expertise.** TestDiet® is part of a major nutrition company with a **history of more than 100 years** and the expertise of the most comprehensive team of animal nutrition experts in the world. TestDiet® formulates, produces, and distributes custom lab animal research diets of all kinds to the world's most prestigious pharmaceutical companies, research institutes, and government agencies.

**Innovation & Reliability.** TestDiet® PhD nutritionists and veterinarians collaborate closely with the research community in developing new solutions for a wide spectrum of life science research; they regularly conduct proactive and innovative research at the LongView Animal Nutrition Center in Gray Summit, Missouri. The TestDiet® research team stays on the cutting edge of lab animal nutrition needs and the use of diets in biological research, regularly attends scientific meetings of various medical disciplines, consults regularly with animal science professionals, and lectures at conferences and seminars at The Jackson Laboratory and other institutions. In addition, the TestDiet® chemical analysis lab in Richmond, Indiana, conducts most typical proximate analyses for protein, fat, fiber, and moisture, as well as mycotoxins, vitamins, and minerals. No other company has the resources, longevity, stability, and century-long reputation to protect your interests. TestDiet® has the corporate resources to ensure product integrity.

**Research Orientation.** As the world leader in laboratory animal nutrition, the LabDiet® and TestDiet® brands have a **long and proud history of close collaboration with life science investigators worldwide.** LabDiet® products have been used by researchers for over 60 years, TestDiet® products for over 30 years. Good science demands accurate data . . . TestDiet® provides precise open formulas with the exact description and amount of each ingredient in all our purified diets, including all minerals and vitamins.

**Service.** Wherever in the world your lab is, TestDiet® is uniquely equipped to provide your diet in 5 business days or less. From the widest range of animal nutrition experts to consult for all your research diet needs, to regional sales managers and local distributors providing personal service, we assure **competent and rapid response to all your research needs.**

**Value.** TestDiet® is committed to providing the highest quality lab animal research diets, and can provide exactly the same formulas currently available elsewhere. **TestDiet® offers you impeccable quality, exemplary service, and absolute reliability at a fair and reasonable price.**

TestDiet® Produces a Vast Range of Laboratory Animal Diets for the Study of Diet-Induced Disease Models, Specific Diseases & Behaviors, Phenotype Expression, and Drug Development, including:

- I. Purified Ingredient Diets
- II. Custom Grain-Based Diets
- III. Additions of Compounds to Diets
- IV. Medicated Diets
- V. Specialized Products for Nutrition Studies
- VI. Diverse Diet Forms: Pellets, Powder, Liquid, Tablets (Precision Pellets)
- VII. Enrichment Devices & Treats

TestDiet® has extensive experience developing diets that induce specific disease models and affect phenotype expression. Please see our Web site for information on each of the subjects listed below ... and more. Each of the links leads to a brief discussion of the role of nutrition on the various topics, representative diets used in such research, and representative journal articles.

Alcoholism	Arteriosclerosis	Atherosclerosis
Behavior	Cancer	Cardiovascular Disease
Diabetes	Diet-Induced Disease Models	Drug Action
Endocrinology	Gene Expression	Hypertension
Insulin Resistance	Metabolic Syndrome	Neurology
Obesity	Osteology/Osteoporosis	Pharmacology
Phenotype Expression	Psychiatry/Psychology	

**For a concise and comprehensive review of nutrition for lab animals see [www.TestDiet.com/Nutrition.htm](http://www.TestDiet.com/Nutrition.htm).**

## I. Purified Ingredient Diets

**With purified diets, your materials and methods are easy to report, repeat, and modify.** Your research benefits from constant formulas, with precise batch-to-batch consistency, whenever and wherever your research is repeated. When you want to vary your experiment, modifications are easy to formulate. When TestDiet® designs custom purified diet formulas for your particular research needs, you maintain complete control over the nutrient composition and can study the effects of variations of specific nutritional components.

The fundamental purposes of purified diets are:

- Full knowledge of all ingredients
- Complete open formulas
- Precise nutrient composition
- Repeatable consistency
- Easy modification

Consequently, using purified diets results in accurate, reliable, verifiable data.

**Global Standard.** When your research requires a precise, repeatable, identifiable background diet, purified ingredient diets are the perfect solution. Research can be consistently repeated, easily modified, and accurately reported anywhere in the world, with confidence.

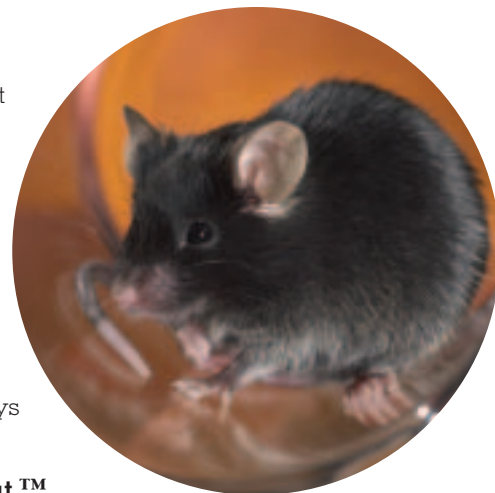
**Research-Based Nutrition.** The nutritional sufficiency of purified ingredient diets has been established by decades of research by tens of thousands of researchers. See the TestDiet® Web site for feeding trial research data.

**Open Formulas.** TestDiet® purified ingredient diets are precisely produced according to a unique open formula. Precise open formulas specify the exact description and amount of each ingredient, including all minerals and vitamins, as well as a typical analysis of energy sources and chemical composition. Some vitamin and mineral mix formulas are available on line; we will provide any purified diet vitamin or mineral mix formula on request.

**Pure Ingredients.** In purified ingredient diets, nutrients are derived from precise refined ingredients obtained from reliable, consistent, traceable suppliers of human grade food products. You always know the exact nutritional content and the specific ingredients—no more and no less. Purified diets contain no phytoestrogens and no significant bacterial contamination. In fact, purified diets typically contain as much as 100 times lower levels of naturally occurring bacteria as standard grain-based diets. Therefore, you can be confident that your resulting data are accurate—unadulterated by unknown and varying components of grain-based animal feed.

**Purified should mean all ingredients, including casein.**

Purified diets should be made with pure ingredients of known, verifiable, consistent composition to the greatest extent practicable. However, a number of purified diet manufacturers use less-expensive milk casein that is not vitamin-free; consequently, unknown and random amounts of various vitamins are introduced into each batch of diet without being recognized or reported. The protein content of this less expensive casein can also fluctuate significantly. This cost-cutting practice defeats the fundamental purposes of a purified diet - full knowledge of all ingredients, complete open formulas, and repeatable consistency, resulting in accurate, reliable data. Consistent with the value of your research, TestDiet® uses only precise vitamin-free milk casein in purified diets; and, TestDiet® routinely assays casein to confirm that the protein content is within tight tolerances.



**Quality. When consistent diets go into your research, precise results come out.™**

Purified diets are a major investment in the quality and reliability of your research. Typically, post-manufacturing analysis is not conducted on purified diets, rather product integrity is assured by the quality and consistency of the ingredients and the integrity of the manufacturing process. TestDiet® operates the cleanest, most efficient, most precise purified lab animal diet production laboratory in the world. **Our facilities are GLP-compatible, GMP-compliant, and ISO-certified.** Because of these certifications, unsurpassed expertise in lab animal nutrition, scrupulous attention to detail and precision, and commitment to using the finest ingredients regardless of cost, you never need to conduct post-production analysis for a TestDiet® product.

**Modifications to Purified Diets — Carbohydrates • Fats • Proteins • Fibers • Minerals • Vitamins**

TestDiet® has thousands of existing formulas and diet series available, and can make minute adjustments to every diet component (fiber, minerals, vitamins) and source of energy (fats, carbohydrates, proteins). The nutritional content of any purified diet can be altered easily and consistently. One or several discrete components can be increased or decreased in a series of diets. Often a **direct-add** to an existing purified diet formula can meet research needs—(e.g., cholesterol, vitamin, mineral “on top of” a diet); sometimes it is better to modify the entire formula. Section III contains more information about modified diets.

**Many purified diet formulas may be reviewed on our Web site [www.TestDiet.com](http://www.TestDiet.com) — thousands more are available on request from one of our consulting nutritionists. Modifications can also be made to grain-based diets.**

**About Purified Diet Formulas**

Purified diets are usually formulated from either a quantity-balanced or a calorie-balanced perspective, each well respected and utilized by researchers worldwide. Calorie-balanced formulas are most commonly used for obesity and diabetes research. Following are brief explanations of both of these concepts; more detailed information can be found on our Web site at [www.TestDiet.com/AboutDietFormulas.htm](http://www.TestDiet.com/AboutDietFormulas.htm).

**Calorie-balanced.** Many purified diets are designed to provide consistent nutrition for the same amount of calories consumed, regardless of ingredient modifications. These diets deliver the same micronutrients and fiber for each calorie consumed, even though the quantity of diet may increase or decrease as one or more of the energy sources may vary. (As one or another source of energy is adjusted, the amount of the fiber component is not adjusted, but remains constant.) Typically, for each calorie consumed, the ingested amount of minerals, vitamins, fiber, and one of the three energy sources will remain constant.

**Quantity-balanced.** Quantity-balanced formulas are designed to provide consistent nutrition in like quantities of food no matter how the ingredients vary. These diets deliver the same amount of each micronutrient (vitamins and minerals) and the same amount of energy (calories) for each gram of food. Typically, as one or another source of energy (fat, carbohydrate, or protein) is adjusted, the fiber content is also adjusted.

*TestDiet® produces both calorie-balanced and quantity-balanced diets, depending on your research needs.*

### TestDiet® Basal Diet and Diet Series

Our universal Basal Diet, TestDiet® Formula #5755, provides optimum nutrition for laboratory rodents and has been used as the base for thousands of unique custom diet formulas for more than 20 years.

Often, purified diets are formulated in a series to be used in conjunction with each other, such as a “control” diet with one or more variable experimental diets. For example, the TestDiet® Diet-Induced Obesity (DIO) series is based on TestDiet® 5755. A spreadsheet describing the TestDiet® DIO series and demonstrating how the several diets in a series can be compared follows the TestDiet® 5755 specification sheet.

TestDiet® can formulate new diets using any existing diet formula as a base—a TestDiet® formula, a formula from a previous experiment reported in a journal article, a diet originally produced by another manufacturer, or an entirely new formula based on your specifications. Then TestDiet® can vary or substitute any one or more nutrients and/or adjust the ratio between two ingredients to create an infinite number of diet modifications with precise and discrete variables for your specific research needs.

For more detailed information see “Essentials of Custom Diets for Laboratory Animals: What Every Preclinical Investigator Needs to Know” at [www.TestDiet.com/Essentials.pdf](http://www.TestDiet.com/Essentials.pdf).



## A few examples of frequently duplicated lab animal research diets for studying Diet-Induced Obesity (DIO), Diabetes, Metabolic Syndrome, and related diseases.

*Compare our value with any other supplier.*

Commonly known as	Description	TestDiet® Formula
<b>AIN-76A/D10001/F1515</b>	AIN-76A	<b>5800-B</b>
<b>AIN-93G/D10012-G/F3155</b>	AIN-93G Gestation and Growth	<b>5801-G</b>
<b>AIN-93M/D10012-M/F3156</b>	AIN-93M Mature and Maintenance	<b>5801-M</b>
<b>D12450B</b>	“van Heek” DIO 10% kcal fat (control)	<b>58Y2</b>
<b>D12451</b>	“van Heek” DIO 45% kcal fat	<b>58V8</b>
<b>D12492</b>	“van Heek” DIO 60% kcal fat	<b>58Y1</b>
<b>D12328 &amp; D12329</b>	The “Surwit” series low-fat (11% kcal fat)	<b>58R0 &amp; 58R1</b>
<b>D12330 &amp; D12231</b>	The “Surwit” series high-fat (58% kcal fat)	<b>58R2 &amp; 58R3</b>
<b>D12266B</b>	Purified Match to Condensed Milk Diet	<b>5388</b>
<b>D12489B</b>	Low-fat Control for D12266B	<b>5387</b>
<b>D12079B</b>	A “Western Diet”	<b>5342</b>

All these diet formulas and many more can be reviewed in detail on our Web site—[www.TestDiet.com](http://www.TestDiet.com).

# Typical Purified Diet Specifications

## Basal Diet

5755

### DESCRIPTION

Basal Diet 5755 is a purified, synthetic diet that provides all the essential nutrients to support maintenance, growth, gestation and lactation in laboratory mice and rats.

Storage conditions are particularly critical to TestDiet® products, due to the absence of antioxidants or preservative agents. To provide maximum protection against possible changes during storage, store in a dry, cool location. Storage under refrigeration (2° C) is recommended. If long term studies are involved, store the diet at -20° C or colder. Be certain to keep in air tight containers.

Product Forms Available*	Catalog #
1/2" Pellet	7024
1/2" Pellet, Irradiated	54256

\*Other Forms Available By Request

### INGREDIENTS (%)

Dextrin	43.6500
Casein - Vitamin Free	21.0000
Sucrose	15.0000
RP Mineral Mix #10 (adds 1.29% fiber)	5.0000
Corn Oil	5.0000
Lard	5.0000
Powdered Cellulose	3.0000
RP Vitamin Mix (adds 1.94% sucrose)	2.0000
Choline Chloride	0.2000
DL-Methionine	0.1500

### FEEDING DIRECTIONS

Feed ad libitum. Plenty of fresh, clean water should be available at all times.

#### CAUTION:

Perishable, upon receipt store in a cool dry place, refrigeration recommended.

For laboratory animal experimental use only, NOT for human consumption.

9/29/2004

### NUTRITIONAL PROFILE <sup>1</sup>

<b>Protein, %</b>	<b>19.0</b>	<b>Minerals</b>	
Arginine, %	0.73	Calcium, %	0.60
Histidine, %	0.54	Phosphorus, %	0.57
Isoleucine, %	1.00	Phosphorus (available), %	0.57
Leucine, %	1.82	Potassium, %	0.40
Lysine, %	1.53	Magnesium, %	0.07
Methionine, %	0.69	Sodium, %	0.21
Cystine, %	0.08	Chlorine, %	0.24
Phenylalanine, %	1.00	Fluorine, ppm	5.0
Tyrosine, %	1.06	Iron, ppm	60
Threonine, %	0.81	Zinc, ppm	21
Tryptophan, %	0.23	Manganese, ppm	65
Valine, %	1.20	Copper, ppm	15.0
Alanine, %	0.58	Cobalt, ppm	3.2
Aspartic Acid, %	1.35	Iodine, ppm	0.57
Glutamic Acid, %	4.29	Chromium, ppm	3.0
Glycine, %	0.41	Molybdenum, ppm	0.82
Proline, %	2.47	Selenium, ppm	0.23
Serine, %	1.16		
Taurine, %	0.00	<b>Vitamins</b>	
		Vitamin A, IU/g	22.1
<b>Fat, %</b>	<b>10.0</b>	Vitamin D-3 (added), IU/g	2.2
Cholesterol, ppm	48	Vitamin E, IU/kg	50.1
Linoleic Acid, %	3.34	Vitamin K (as menadiol), ppm	10.40
Linolenic Acid, %	0.07	Thiamin Hydrochloride, ppm	20.6
Arachidonic Acid, %	0.01	Riboflavin, ppm	20.0
Omega-3 Fatty Acids, %	0.07	Niacin, ppm	90
Total Saturated Fatty Acids, %	2.72	Pantothenic Acid, ppm	55
Total Monounsaturated Fatty Acids, %	3.31	Folic Acid, ppm	4.0
		Pyridoxine, ppm	16.5
<b>Fiber (max), %</b>	<b>4.3</b>	Biotin, ppm	0.4
		Vitamin B-12, mcg/kg	20
<b>Carbohydrates, %</b>	<b>60.6</b>	Choline Chloride, ppm	1,400
		Ascorbic Acid, ppm	0.0
<b>Energy (kcal/g) <sup>2</sup></b>	<b>4.09</b>		
From:	kcal	%	
Protein	0.761	18.6	
Fat (ether extract)	0.900	22.0	
Carbohydrates	2.424	59.3	

1. Based on the latest ingredient analysis information. Since nutrient composition of natural ingredients varies, analysis will differ accordingly. Nutrients expressed as percent of ration on an As Fed basis except where otherwise indicated.  
2. Energy (kcal/gm) = Sum of decimal fractions of protein, fat and carbohydrate x 4.9, 4 kcal/gm respectively.



**TestDiet**  
www.testdiet.com

## Typical Diet Series Spreadsheet

	Basal Diet			TestDiet® DIO Series								
	#5755 22% kcal fat			#58G7 12% kcal fat			#58G8 45% kcal fat			#58G9 60% kcal fat		
	gm%	kcal	kcal%	gm%	kcal	kcal%	gm%	kcal	kcal%	gm%	kcal	kcal%
Protein	21.15%	763.0	18.7	20.01%	763.0	18.7	24.31%	763.0	18.7	26.95%	763.0	18.7
Carbohydrate	60.55%	2422.0	59.3	66.98%	2831.5	69.3	42.68%	1485.0	36.4	27.79%	872.2	21.4
Fat	10.00%	900.0	22.0	5.16%	490.5	12.0	23.46%	1837.0	45.0	34.69%	2449.8	60.0
Minerals & Vitamins	4.01%			3.79%			4.61%			5.11%		
Fiber	4.29%			4.06%			4.93%			5.47%		
Total	100%	4085.0	100.0	100%	4085.0	100.0	100%	4085.0	100.0	100%	4085.0	100.0
kcal/gm	4.09			3.87			4.70			5.21		
Ingredient	gm	kcal	gm/kg	gm	kcal	gm/kg	gm	kcal	gm/kg	gm	kcal	gm/kg
Casein, Vitamin-Free	210.0	757.0	210.00	210.0	757.0	198.70	210.0	757.0	241.42	210.0	757.0	267.60
DL-Methionine	1.5	6.0	1.50	1.5	6.0	1.42	1.5	6.0	1.72	1.5	6.0	1.91
Dextrin	436.5	1746.0	436.50	513.9	2055.5	486.22	262.3	1049.0	301.49	149.1	596.2	189.93
Sucrose	150.0	600.0	150.00	175.0	700.0	165.58	90.0	360.0	103.46	50.0	200.0	63.71
Cellulose (insoluble fiber)	30.0	0.0	30.00	15.0	0.0	14.19	15.0	0.0	17.24	15.0	0.0	19.11
Inulin (soluble fiber)				15.0	0.0	14.19	15.0	0.0	17.24	15.0	0.0	19.11
Corn Oil	50.0	450.0	50.00	50.0	450.0	47.31	50.0	450.0	57.48	50.0	450.0	63.71
Lard	50.0	450.0	50.00	4.5	40.5	4.26	154.1	1387.0	177.17	222.2	1999.8	283.15
RP Mineral Mix #10 (25.8% fiber)	50.0	0.0	50.00	50.0	0.0	47.31	50.0	0.0	57.48	50.0	0.0	63.71
Choline Chloride	2.0	0.0	2.00	2.0	0.0	1.89	2.0	0.0	2.30	2.0	0.0	2.55
RP Vitamin Mix (95% sucrose)	20.0	76.0	20.00	20.0	76.0	18.92	20.0	76.0	22.99	20.0	76.0	25.49
<b>Total</b>	<b>1000</b> 1000 grams deliver 4085 kcal			<b>1000</b> 1057 grams deliver 4085 kcal			<b>1000</b> 870 grams deliver 4085 kcal			<b>1000</b> 785 grams deliver 4085 kcal		

### Carbohydrate Distribution

Simple Sucrose %	25.58%	25.40%	25.55%	25.12%
Complex Dextrin %	74.42%	74.60%	74.45%	74.88%

## II. Grain-Based Diets

The specific ingredients in LabDiet® natural ingredient grain-based animal feeds are varied to achieve nutritional consistency, or Constant Nutrition.™ LabDiet® may be able to meet your research needs by adding nutritional components to standard grain-based LabDiet® products. This process is used often for adding fats, oils, and cholesterol, and can be used to add any nutrient(s), such as protein, minerals, vitamins, carbohydrate, and fiber. When required by your research, we can also add approved medications and test compounds to any diet, including standard grain-based diets, as well as custom diets, both grain-based and purified.

Alternatively, TestDiet® can produce custom formulated grain-based diets “from scratch,” using standard multi-nutrient ingredients normally used in such products, or substituting nutrient-specific ingredients (such as milk casein as a protein source). This is particularly useful to prepare diets comparable to a standard LabDiet® products, but with certain components deleted from the formulas (e.g., a diet with no added Vitamin A, or no soy protein).

## III. Additions of Compounds to Diets

Adding test compounds to standard and custom grain-based diets and to purified diets is an effective, accurate, and convenient means of dosing animals for research purposes, such as conducting nutritional studies, studying the effects of pharmaceuticals or toxins, and testing new drug formulas. With precision and consistency, compounds, chemicals, medications, or nutrients can be homogeneously blended into standard LabDiet® products (an effective and economical means), TestDiet® modified and custom grain-based diets, and TestDiet® standard and custom purified diets.

The diets can be color-coded for easy identification by technical staff. TestDiet® provides these products in a convenient and efficient size and form—extruded pellets, tablets, or powder (meal); many can be made into a suspendable or soluble form for liquid diets. For any test compound supplied for modified additions, a Material Safety Data Sheet (MSDS), listing as Generally Regarded As Safe (GRAS), or a statement regarding its safety and handling is required. TestDiet® reserves the right to accept or reject a test compound based on evaluation of its safety. Alternatively, TestDiet® may obtain the compound. In either case, TestDiet® adds compounds to diets strictly for research on your own laboratory animals.

TestDiet® never compromises product integrity, or endangers the validity and accuracy of your research or the safety and health of your animals and staff; therefore, TestDiet® does not handle any toxins, carcinogens, mutagens, radioactive substances, controlled dangerous substances (CDS), or live organisms (viruses, bacteria, etc.). Thus, you are assured that no dangerous or deleterious cross-contamination will occur.

**How to Calculate Correct Dosage** — see [www.TestDiet.com/HowtoCalculateDosages.htm](http://www.TestDiet.com/HowtoCalculateDosages.htm)

**Procedures & Details** — see [www.TestDiet.com/AddingCompounds.htm](http://www.TestDiet.com/AddingCompounds.htm)

## IV. Medicated Diets

**TestDiet® can add veterinary medications to any grain-based or purified diet and then form it into convenient pellets for efficient, economical, and accurate dosing.**

Medications which can be added to diets include (but are not limited to): acetaminophen, amoxicillin, aspirin, Bactrim (sulfamethoxazole and trimethoprim), Baytril (enrofloxacin), Cefa-Tabs (cefadroxil monohydrate), Clavamox/Augmentin, erythromycin, Flagyl (metronidazole), ibuprofen, Keflex, L-tryptophan, prednisolone, tetracycline. TestDiet® can add combinations of drugs as well, for example the Helicobacter treatment of amoxicillin, metronidazole, and bismuth.

### Frequently Used Medicated Diets

Certain medications, such as Fenbendazole, Doxycycline, and Sulfa-Trim, are used frequently. At your request, these medications can be added to any LabDiet® grain-based food and into any custom TestDiet® product. The diet is then compressed into convenient pellets. As with all TestDiet® products, medicated diets are typically produced within 5 business days or less. Gamma irradiation is included for all Fenbendazole, Doxycycline, and Sulfa-Trim diets, which may add an extra 10 business days to the production time. *Details follow on next page*



### De-Worming Fenbendazole Rodent Diets

Fenbendazole (methyl 5-(phenylthio)-2-benzimidazole carbonate) can be added for de-worming purposes to any LabDiet® grain-based food and to any custom TestDiet® product. The diet is then compressed into convenient pellets. Gamma irradiation is included for all Fenbendazole diets.

**Indications & Use** — Fenbendazole eradicates pinworms; see [www.TestDiet.com/Fenbendazole.htm](http://www.TestDiet.com/Fenbendazole.htm)

### Transgenic Doxycycline Diets

Doxycycline can be added to any LabDiet® grain-based food and to any custom TestDiet® product. The diet is then compressed into convenient pellets. **Gamma irradiation is included for all Doxycycline diets.**

**Indications & Use** — Doxycycline is an antibiotic used primarily to “turn on” or “turn off” specific gene expression in genetically-modified animals. The most common concentration is 200 ppm, but dosing can be modified to meet unique research requirements; see [www.TestDiet.com/Doxycycline.htm](http://www.TestDiet.com/Doxycycline.htm).

### Sulfa-Trim Diets

Sulfa-Trim can be added to any LabDiet® grain-based food and to any custom TestDiet® product. Gamma irradiation is included for all Sulfa-Trim diets.

**Indications & Use** — Sulfa-Trim reduces respiratory risk in immuno-compromised mice (“SCIDS”—severe combined immunodeficiency syndrome). Trimethoprim and sulfamethoxazole have been used to reduce occurrences of *Pneumocystis carinii* pneumonia. Specific dosing is based on unique requirements; see [www.TestDiet.com/Sulfa-Trim.htm](http://www.TestDiet.com/Sulfa-Trim.htm).

**Three versions of Sulfa-Trim diets are described below.** It is important that the researcher and veterinarian determine the version appropriate for particular animal models and applications—

- #ST1. A concentrated dosage of approximately 1.2% sulfamethoxazole and 0.2% trimethoprim—comparable to a “SCIDS” diet represented elsewhere. (See also our SCIDS Tablets for Rodents at [www.TestDiet.com/SCIDS-TabletsforRodents.htm](http://www.TestDiet.com/SCIDS-TabletsforRodents.htm).)
- #ST2. A dosage of about 0.124% sulfamethoxazole and 0.025% trimethoprim. **This is the most commonly-used formula and the one that most closely resembles human Sulfa-Trim dosing.**
- #ST3. A similar 1/10th concentration dosage of about 0.124% sulfadiazine (rather than sulfamethoxazole) and 0.025% trimethoprim—comparable to the Uniprim diet manufactured elsewhere. Uniprim is the registered trademark for a veterinary medication for horses, which is also available. Sulfadiazine is far less expensive than sulfamethoxazole; data regarding its relative efficacy are conflicting.

**Precise Dosage Medicated Tablets.** Medicated grain-based or purified diet can be formed into convenient and **precise dosage tablets**. Tablets are available in such sizes as 20 mg, 45 mg, 0.5 gm, 1 gm, 2.5 gm, and 5 gm—and any size in between. This is an effective and convenient method for efficient, economical, and accurate dosing. Flavors can be added and the tablets can be color-coded as specified. Medicated tablets are usually packaged in relatively small quantities (for example, 100 – 5 gm tablets), or as required, in convenient re-sealable containers. See [www.TestDiet.com/PreciseDoseTablets.htm](http://www.TestDiet.com/PreciseDoseTablets.htm).

## V. Specialized Products for Nutrition Studies


For a concise comprehensive review of nutrition for lab animals, see [www.TestDiet.com/Nutrition.htm](http://www.TestDiet.com/Nutrition.htm).

Following are two products used for specific aspects of nutrition studies.

### Precision Pellets for Portion-Controlled Feeding

Precisely controlling the amount of food provided to laboratory animals is important in many areas of study—obesity, diabetes, metabolic syndrome, etc. It is also a factor in studies sensitive to longevity, given recent findings that ad lib access to food contributes to increased mortality, while calorie-intake restriction extends survival rates. The standard 1 gram and 5 gram tablets of LabDiet® Certified Rodent Diet 5002 formula or LabDiet® Laboratory Rodent Diet 5001 formula are perfect for





portion-controlled feeding and food restriction regimens. By combining 1 gram and 5 gram tablets, feeding can be precisely controlled in 1 gram increments (e.g., 17 grams = three 5 gram and two 1 gram tablets). Any LabDiet® products and most TestDiet® purified diets can be formed into precise-dose tablets for portion control and restricted feeding purposes.

### **KP™ Kaolin Pellets**

Nausea and related illnesses are often unwelcome side effects of some research studies and drug treatments. Nausea and related disruption of appetite and ingestion adversely affect studies and distort resulting data. The condition can be caused by a wide variety of factors, including cancer, viral and bacterial infections, and consumption of toxins. **Pica behavior** (the craving for and ingesting of unnatural or non-nutrient substances) in mice and rats may indicate nausea, analogous to emesis in other species. This behavior may often be the only apparent indicator of such symptoms, or may indicate syndromes of malabsorption or maldigestion. Offering non-nutritive kaolin pellets to your laboratory animals provides an **effective means of early detection** of such illness in laboratory animals. They are both economical and easy to administer. Kaolin is used in the study of anorexia, bulimia, cachexia (a weight loss condition accompanying advanced illness), chemotherapy, diabetes, digestive & ingestive disorders, metabolic syndrome, obesity, oncology, pharmaceutical trials, and radiation therapy.

## VI. Diverse Diet Forms: Pellets, Powder, Liquid, Tablets (Precision Pellets)

**All diets are available as pellets and powder (or meal); most can be formed into tablets (precision pellets); many can be made into concentrates for suspendable or nearly soluble liquid diets.**

### **Pellets**

TestDiet® produces extruded pellets with as much as 60% kcal from fat (35% fat by weight); higher fat levels can be made into a convenient cookie dough consistency. Pellets are usually approximately 1.25 cm (1/2") in diameter by approximately 2 cm to 2.5 cm (3/4" to 1") long; they are also available in smaller diameters (for instance 3/8" or 3/16", for ferrets, guinea pigs, and rabbits).

### **Advantages of Pellets Compared to a Powder or Meal Form —**

- Pellets can be fed in almost any feeder or hopper, or even without a hopper by simply tossing into the cage.
- Using pellets tends to result in significantly less spillage and wastage of food, which saves both money and labor.
- Pellets tend to be more stable than powders. Most of the ingredients (and any added test compound) are trapped inside the pellet, unexposed to air, moisture, and light; once mixed, the ingredients do not settle out or separate, but remain homogeneously distributed.
- Pellets can be color-coded with very small amounts of FD&C food colors to distinguish between different diets in a study. This not only increases the accuracy of research by helping to prevent animals from being given the wrong diet, but also increases the perception of accuracy and confidence about your data.
- Pellets generate virtually no dust.
- By feeding pellets, rodent incisors can be worn down.

### **Powder**

Powder is a useful form of diet if it is preferred to add test compounds at the research facility rather than have TestDiet® incorporate those compounds and pellet the diet.

### **Liquid Diet Mixes**

TestDiet® suspendable liquid diets are used in many types of research with all species. Liquid diets are convenient to use, mix easily, and, once mixed with water or ethanol, can be stored for several days. Virtually any lab animal diet formula can be translated into a liquid form, and TestDiet® can produce any previously formulated liquid diet. Liquid diets are beneficial in nutritional studies on fetal alcohol syndrome and alcoholism, for instance. **For complete details on Liquid Diets, see [www.TestDiet.com/LiquidDiets.htm](http://www.TestDiet.com/LiquidDiets.htm).**

## Tablets (Precision Pellets)

Purified and grain-based diets can be compressed into dust-free tablets or precision pellets of precise weights and sizes for a variety of purposes—

- efficient, economical, and accurate medication **dosing**;
- vitamin and mineral **supplementation**;
- food restriction, **portion-controlled feeding**, and food intake measurement;
- **reward** and behavior reinforcement through pellet dispensers (e.g., Skinner boxes); and,
- **enrichment** as treats.

Grain-based tablets can be made from the standard LabDiet® formulas commonly fed to lab animals. Tablets based on purified diets offer more exacting control over diet composition and tend to be sweeter tasting than grain-based tablets. They can also be more easily **color-coded**. Color-free tablets can be produced for toxicological studies. Complete ingredient and nutritional data are available for all TestDiet® tablets. If data for a particular product cannot be located on the TestDiet® Web site, TestDiet® will be happy to provide it on request.

These standard **flavors** can be added to any TestDiet® tablets: Banana, Raspberry, Orange, Grape, Chocolate, Peanut Butter, and Bacon (others available upon request).

Standard Tablet (Precision Pellet) Products	Species (other species available on request)	Standard Sizes (other sizes available on request)	Pellet Dispenser Compatible?
<b>Sucrose Reward Tablets</b> Only for positive reinforcement, must not be used for general nutrition. Contains sucrose, inert binders, flow agents for tableting.	Rodents & Primates	20 mg 45 mg	Yes Yes
<b>Calorie Free Reward &amp; Enrichment Tablets</b> Cellulose with non-nutritive sweetener & flavoring.	Rodents & Primates	20 mg 45 mg 1, 3, & 5 gm	Yes Yes
<b>Purified Rodent Tablets</b> AIN-76A base	Rodents	20 mg 45 mg 120 & 190 mg 1 & 5 gm	Yes Yes
<b>Grain-Based Rodent Tablets</b> LabDiet® 5001 base	Rodents	20 mg 45 mg 120 & 190 mg 1 & 5 gm	Yes Yes
Perfect size for portion controlled feeding. LabDiet® Certified 5002 base Perfect size for portion controlled feeding.	Rodents	1 & 5 gm	
<b>LabTreats™ Primate Reward &amp; Enrichment</b> Purified Base — TestDiet® 5894 Grain Base — LabDiet® 5045	Primates	5 gm 5 gm	
<b>Grain-Based Primate Tablets</b> LabDiet® 5045 base for both Old & New World primates, with stabilized Vitamin C.	Primates	1 gm 3 gm 5 gm	
<b>Vitamins</b> TestDiet® 5073 — Monkey MV TestDiet® 9258 — Monkey Mini MV TestDiet® 9259 — Monkey Mini MV plus Iron	Primates	3 gm 600 mg 1 gm	
<b>SCIDS</b>	Rodents	5 gm	
<b>Papaya</b> A highly palatable papaya melon tablet containing papain, a proteolytic enzyme, which may aid hair passage in animals susceptible to hair accumulation in the gastrointestinal tract. TestDiet® 9256, 9257, & 9262	Multiple	600 mg	
<b>Custom</b> TestDiet® can custom formulate both grain-based and purified diet tablets of any shape and size to suit your research protocol. We can use a standard diet or a unique formula to meet specifications. Tablets can be flavored and colored, and medications or test compounds can be added.	Multiple	20 mg to 5 gm	

Effect of Storage Time and Temperature on Vitamin Levels of Tablets—see [www.TestDiet.com/Tablets.htm](http://www.TestDiet.com/Tablets.htm).

## VII. Enrichment Devices and Treats

The psychological stability of test animals is essential to the validity of our studies. We offer a wide range of food-based and conventional devices, including reward treats, shelters, gnawing, mirrors, balls, etc. For complete details, see [www.TestDiet.com/Enrichment.htm](http://www.TestDiet.com/Enrichment.htm).



### Quality Assurance — GMP / GLP / ISO

The TestDiet® and LabDiet® Quality Assurance Program is

- ISO certified
- GLP compatible (“Good Laboratory Practice”—21 CFR Part 11)
- GMP compliant (“Good Manufacturing Practice”—21 CFR Part 210)
- Consistent with the requirements and expectations of a world-class corporation
- Consistent with over 100 years of corporate experience.

TestDiet® and LabDiet® closely regulate, monitor, and inspect all phases of diet production—ingredient ordering, ingredient receipt, ingredient storage, weighing and measuring devices and procedures, equipment and instrumentation performance, cleaning and sterilization, packaging, irradiation, warehousing, etc.

- Written Standard Operating Procedures (SOPs) cover all aspects of operations.
- Detailed, accurate inspection records are maintained—daily, weekly, monthly, annually.
- Comprehensive training materials and an on-going employee-training program are maintained, with all schedules and records.
- Each diet formula receives a unique code. Detailed production records are maintained for every batch of diet made, and a sample is kept for a reasonable time following production.

### TestDiet® ISO Certified Production Laboratory

TestDiet® & LabDiet® took the lead to become the first U.S. laboratory animal diet manufacturing plant to become **ISO 9002 Certified** on November 5, 1996. TestDiet® & LabDiet® maintain current registration (ISO 9001:2000), conforming to all existing standards.

The Richmond, Indiana facility is used exclusively for production of TestDiet® products. All required OSHA and other regulatory inspections are routinely made with appropriate records available for examination. A pest control management program in place is meticulously maintained.

TestDiet® never compromises product integrity—or endangers the validity and accuracy of your research or the safety and health of your animals and staff. Therefore, TestDiet® does not handle any toxins, carcinogens, mutagens, radioactive substances, controlled dangerous substances (CDS), or live organisms (viruses, bacteria, etc.). Thus, you are assured that no dangerous or deleterious cross-contamination will occur.

TestDiet® carefully and thoroughly screens all suppliers before adding them to the authorized supplier list. Then TestDiet® monitors their performance to ensure that TestDiet® quality standards are maintained. All ingredient protocols are part of ISO 9001:2000 certification documentation. Not only is every supplier carefully monitored, each shipment is inspected for possible contaminants. The protein and fiber content of key ingredients is analyzed and other tests verify individual ingredients.

**For quality, reliability, and US FDA/GLP/GMP/ISO compliance, consider TestDiet® your true partner in biological research and drug discovery.**

**In fact, some pharmaceutical companies have recently switched from their previous purified diet suppliers precisely because of concern about heightened FDA (U.S. Food & Drug Administration) perusal of pre-clinical drug discovery procedures. They have concluded that the FDA expects GLP-compliant procedures to be followed by the suppliers of goods and services. Our training protocols, SOPs, and detailed records will satisfy you and the FDA.**



### Gamma Irradiation

**TestDiet® offers gamma irradiation sterilization of all products, usually at an additional charge.**

**Time.** Normal diet production time is 5 business days or less, while irradiation adds 10 business days to production time. (Often irradiation can be done in less than 10 days, but it's safe to plan on the full 10 days.)

**Exceptions:** Fenbendazole-medicated LabDiet® 5001 is frequently in stock, irradiated. Other regularly irradiated diets may be available sooner.

**Rush Service:** If you have an urgent need, TestDiet® will make every effort to process your irradiated diet sooner. If additional rush freight charges (UPS, FedEx, DHL) will be incurred, TestDiet® will advise you in advance.

**Cost.** Irradiation costs an extra \$1.00 per kg. — There is **no minimum**. (If you want only 10 kg of diet irradiated, you are only charged \$10.00).

**Exceptions:** Prices for Fenbendazole, Doxycycline, and Sulfa-Trim diets include irradiation. — (You may, however, specify that you do not want these products irradiated if you cannot allow for the 10 extra business days.)

**Irradiation vs. Autoclaving for Laboratory Animal Diets — see [www.TestDiet.com/GammaIrradiation.htm](http://www.TestDiet.com/GammaIrradiation.htm)**

### Storage & Shelf Life

Purified ingredient diets are perishable and should be stored in a cool, dry place. Refrigeration at 2°–4°C (36°–40°F) or lower is highly recommended; generally, diets can be stored this way for up to 6 months. Most diets can be preserved even longer by freezing; however, use of diets beyond 6 months would be at individual discretion and subject to laboratory protocols.

The shelf life of grain-based diets varies depending upon composition. Generally, they will keep in cool dry storage for about the same length of time as for the comparable LabDiet® product, about 6 months. Please inquire about the specific shelf life of any custom grain-based diet.

### Shipping

TestDiet® offers the widest range of shipping options. In most areas of the United States and Canada, the network of Certified LabDiet® Dealers provides personal attention and premium service for all orders. When you buy TestDiet®, you will receive world-class, high quality products and valuable expertise of LabDiet®, and the personal service and attention of local professional dealers. For example, your Certified LabDiet® Dealer can assure that diets are delivered in one consolidated shipment, rather than piece-meal through common carriers (UPS, FedEx, etc.). Alternatively, diets can be stocked for you in local warehouses to provide you just-in-time delivery—as you choose. If you need rush delivery, your orders can be shipped direct to you from TestDiet® by the carrier of your choice (i.e., UPS, FedEx, DHL, and similar services; or by truck).

We provide **rapid service around the globe**. Via airfreight, you can receive your diets usually within 5 transit days or less, and often overnight. In many parts of the world, we have dealers or representatives to provide professional local attention to your research requirements.

### Transit Time and Product Stability

TestDiet® products, whether purified or grain-based, are routinely shipped by various methods. Depending upon where you are located and what method of shipment you choose (and how much you want to pay for freight), transit time can be as short as 1 day, or as long as 2 to 3 weeks. With rare exceptions, these products are perfectly stable for those transit times, even though upon arrival storage in a cool, dry place is recommended. For some very high-fat diets, especially when shipped during the hot summer months, we will recommend second day or overnight shipping, not so much to prevent spoiling as to preserve the pellet shape of the diet, which may begin to crumble with extended exposure to elevated ambient temperature.





## Some Frequently Asked Questions

For more detailed answers & many more questions visit [www.TestDiet.com/FAQ.htm](http://www.TestDiet.com/FAQ.htm).

### Why should we use Purified Ingredient Diets?

The fundamental purposes of a purified diet are full knowledge of all ingredients, complete open formulas, ease of modification, and repeatable consistency, resulting in accurate, reliable data. They can be repeated precisely and modified easily...

### Why should we use Modified Grain-Based Diets?

Often we can meet your research needs by **adding nutritional components to standard grain-based food** (i.e., our LabDiet® products). This process is used often for adding fats, oils, cholesterol, and can be used to add any nutrient(s), such as protein, minerals, vitamins, carbohydrate, and fiber. Alternatively, we can produce **custom formulated grain-based diets** "from scratch," using standard multi-nutrient ingredients normally used in such products, or substituting nutrient specific ingredients.. This is particularly useful when you need a diet comparable to one of our standard LabDiet® products, but with certain components deleted from the formula....

### Can TestDiet® duplicate existing diet formulas?

Whether you produce your own or use a diet from another source, we can duplicate it and deliver product in the desired form—pellet, powder, liquid, or tablet—and ship it to you in as few as 5 business days.

Purified diets, by their very nature, may be exactly duplicated since repeatability is one of the defining hallmarks of purified diets. Any manufacturer of a purified diet must provide you with a complete open formula so that you or anyone else can repeat that precise diet next week, next month, or next year.

For grain-based diets, we will produce comparable formulas using similar ingredients to produce approximately equivalent nutritional content.

### Does TestDiet® completely disclose formulas?

For purified ingredient diets, TestDiet® always provides you a complete open formula, listing the exact description and precise amount of each ingredient, including all minerals and vitamins, and a comprehensive nutritional analysis. For modified grain-based diets, TestDiet® provides a list of all ingredients and a complete nutritional analysis.

### How does TestDiet® assure confidentiality?

For decades, TestDiet® has supported the research of leading pharmaceutical companies, government laboratories, and academia worldwide—they continue to trust us to respect absolute confidentiality. We never reveal information to anyone about the diets you purchase or the experiments you are conducting without your explicit prior approval or by your own publication of research data. When you do publish your research, we encourage you to note precisely the TestDiet® formulas you have used to assist others in repeating and modifying your methods in their own studies.

### What about high-fat purified diets?

We formulate diets with various kinds and amounts of fats—animal and vegetable, solid and liquid; and, we can produce **firm, consistent, stable extruded pellets with as much as 60% kcal from fat, or 35% fat by weight**. We will formulate and produce custom diets to your exact specifications; however, a standard high-fat purified diet will often suffice.

TestDiet® manufactures several standard DIO (Diet-Induced Obesity) diets used extensively by researchers worldwide. One group of diets is commonly known as the "van Heek" series or diets #12450B, #12451, and #12492. Now also available are the **new TestDiet® DIO Series, providing several improvements over the "van Heek" diets—complex fiber, accurate protein and fat levels, vitamin-free casein, and consistent ratios of simple and complex carbohydrates ...**

### How quickly can TestDiet® produce and deliver our diets? What about shipments outside the USA?

TestDiet® products are custom mixed **fresh** to fill each order. Within 5 business days after you place your order, we ship diet by overnight express, regular ground UPS, or by our Certified Dealers' trucks, as required....

### What about prices?

TestDiet® is committed to providing the highest quality lab animal research diets. Often TestDiet® can provide exactly the same formulas currently available elsewhere. The incomparable value we offer you is impeccable quality, exemplary service, and absolute reliability at a fair and reasonable price. We manufacture custom diets fresh—only as needed by researchers; therefore, we quote prices on an order-by-order basis, depending upon quantity, ingredients, and complexity of formulation and production ...



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For the most complete and up-to-date information, visit  
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