



Description

58 kcal% fat w/sucrose Surwit Diet

Used in Research

Obesity
Diabetes

Packaging

Product is packed in 12.5 kg box.
Each box is identified with the product name, description, lot number and expiration date.

Lead Time

IN-STOCK. Ready for next day shipment.

Gamma-Irradiation

Yes. Add 10 days to delivery time.

Form

Pellet, Powder

Shelf Life

Most diets require storage in a cool dry environment. Stored correctly they should last 3-6 months. Because of the high fat content is best if kept frozen.

Control Diets

D12329

Formula

Product #	D12331	
	gm%	kcal%
Protein	23.0	16.4
Carbohydrate	35.5	25.5
Fat	35.8	58.0
	Total kcal/gm	100.0
	5.56	
Ingredient	gm	kcal
Casein, 80 Mesh	228	912
DL-Methionine	2	0
Maltodextrin 10	170	680
Corn Starch	0	0
Sucrose	175	700
Soybean Oil	25	225
Coconut Oil, Hydrogenated	333.5	3001.5
Mineral Mix S10001	40	0
Sodium Bicarbonate	10.5	0
Potassium Citrate, 1 H2O	4	0
Vitamin Mix V10001	10	40
Choline Bitartrate	2	0
FD&C Red Dye #40	0.1	0
Total	1000.1	5558.5

Professor Richard Surwit designed these diets with us for his diet-induced obesity studies at Duke University.

Diets match 10/27/92 telephone specifications of R. Surwit, Ph. D., Duke University. Formulated by E. A. Ulman, Ph.D., Research Diets, Inc. November 6, 1992.



REFERENCES

2/15/06

D12328, D12329, D12330 and D12331

1. Bachman, E.S., et al. BAR signaling required for diet-induced thermogenesis and obesity resistance. *Science*. 297:843-845, 2002.
2. Baffy, G., et al. Obesity-related fatty liver is unchanged in mice deficient for mitochondrial uncoupling protein 2. *Hepatology*. 35:753-761, 2002.
3. Bale, T.L., et al. Corticotropin-releasing factor receptor-2-deficient mice display abnormal homeostatic responses to challenges of increased dietary fat and cold. *Endocrinology*.
4. Brownlow, B., et al. The role of motor activity in diet-induced obesity in C57BL/6J mice. *Physiology & Behavior*. 60:37-41, 1996.
5. Collins, Sheila & Surwit, Richard. Pharmacologic manipulation of ob expression in a dietary model of obesity. *The Journal of Biological Chemistry*. 271:9437-9440, 1996.
6. Collins, S., et al. Genetic variation to diet-induced obesity in the C57BL/6J mouse: physiological and molecular characteristics. *Physiology & Behavior*. 81:243-248, 2004.
7. Fruebis, J., et al. Proteolytic cleavage product of 30-kDa adipocyte complement-related protein increases fatty acid oxidation in muscle and cause weight loss in mice. *PNAS*. 98:2005-2010, 2001.
8. Gimeno, R.E., et al. Targeted deletion of fatty acid transport protein-4 results in early embryonic lethality. *The Journal of Biological Chemistry*. 278:49512-49516, 2003.
9. Guerra, C., et al. Emergence of brown adipocytes in white fat mice is under genetic control. *Journal of Clinical Investigation*. 102:412-420, 1998.
10. Hohmann, J.G., et al. Obesity and endocrine dysfunction in mice with deletions of both neuropeptide Y and galanin. *Molecular and Cellular Biology*. 24:2978-2985, 2004.
11. Ishihara, Y., et al. Effects of diet and time of day on serum and CSF leptin levels in Osborne-Mendel and S5B/PI rats. *Obesity Research*. 12:1067-1076, 2004.
12. Kim, J., et al. Inactivation of fatty acid transport protein 1 prevents fat-induced insulin resistance in skeletal muscle. *The Journal of Clinical Investigation*. 113:756-763, 2004.
13. Lenhard, J., et al. Dietary fat alters HIV protease inhibitor-induced metabolic changes in mice. *Journal of Nutrition*. 130:2361-2366, 2000.
14. Liu, X., et al. Paradoxical resistance to diet-induced obesity in UCP1-deficient mice. *Journal of Clinical Investigation*. 111:399-407, 2003.
15. Morton, N., et al. Novel adipose tissue-mediated resistance to diet-induced visceral obesity in 11 β -hydroxysteroid dehydrogenase type 1-deficient mice. *Diabetes*. 53:931-938, 2004.
16. Münzberg, H. Region-specific leptin resistance within the hypothalamus of diet-induced obese mice. *Endocrinology*. 145:4880-4889, 2004.
17. Paterson, J.M., et al. Metabolic syndrome without obesity: hepatic overexpression of 11 β -hydroxysteroid dehydrogenase type 1 in transgenic mice. *PNAS*. 101:7088-7093, 2004.
18. Petro, A.E., et al. Fat, carbohydrate, and calories in the development of diabetes and obesity in the C57BL/6J mouse. *Metabolism*. 53:454-457, 2004.
19. Pittner, R.A. Effects of PYY[3-36] in rodent models of diabetes and obesity. *International Journal of Obesity*. 28:963-971, 2004.
20. Prpic, V., et al. Differential Mechanisms and development of leptin resistance in A/J versus C57BL/6J mice during diet-induced obesity. *Endocrinology*. 144:1155-1163, 2002.
21. Prpic, V., et al. Adaptive changes in adipocyte gene expression differ in AKR/J and SWR/J mice during diet induced obesity. *Journal of Nutrition*. 132:3325-3332, 2002.
22. Rossmeisl, M., et al. Variation in type 2 diabetes-related traits in mouse strains susceptible to diet-induced obesity. *Diabetes*. 52:1958-1966, 2003.
23. Surwit, R.S., et al. Diazoxide restores β 3-adrenergic receptor function in diet-induced obesity and diabetes. *Endocrinology*. 141:3630-3637.
24. Surwit, R.S., et al. Diet-induced changes in uncoupling proteins in obesity-prone and obesity-resistant strains of mice. *Proc. Natl. Acad. Sci. USA*. 95:4061-4065, 1998.
25. Szcypka, M.S., et al. Feeding behavior in dopamine-deficient mice. *PNAS*. 96:12138-12143, 1999.
26. Tsai, Yau-Sheng, et al. Hypertension and abnormal fat distribution but not insulin resistance in mice with P465L PPAR γ . *The Journal for Clinical Investigation*. 114:241-249, 2004.
27. Tsukiyama-Kohara, Kyoko, et al. Adipose tissue reduction in mice lacking the translational inhibitor 4E-BP1. *Nature Medicine*. 7:1128-1132, 2001.
28. Vigliotta, G., et al. Overexpression of the ped/pea-15 gene causes diabetes by impairing glucose-stimulated insulin secretion in addition to insulin action. *Molecular and Cellular Biology*. 24:5005-5015, 2004.
29. Watson, P.A., et al. Differential regulation of leptin expression and function in A/J/ vs. C57BL/6J mice during diet-induced obesity. *Am. J. Physiol. Endocrinol Metab*. 279:E356-E365, 2000.
30. Williams, T.D., et al. Diet-induced obesity and cardiovascular regulation in C57BL/6J mice. *Clinical and Experimental Pharmacology and Physiology*. 30:769-778, 2003.
31. Yu, X.X., et al. Characterization of a novel UCP5/BMCP1 isoforms and differential regulation of UCP5 and UCP5 expression through dietary or temperature manipulation. *FASEB J*. 14:1611-1618, 2000.
32. Yuan, M., et al. Reversal of obesity- and diet-induced insulin resistance with salicylates or targeted disruption of IKK β . *Science*. 293:1673-1677, 2001.
33. Zvonic, Sanjin, et al. The regulation and activation of ciliary neurotrophic factor signaling proteins in adipocytes. *The Journal of Biological Chemistry*. 278:2228-2235, 2003.