



PRODUCT Dannon DanActive
MARKET National
PROGRAM The Young and the Restless Yesterday
CODE # 080401233
TITLE Boy Taking A Test, Playing Baseball/Vo

LENGTH :30
STATION SOAP
DATE 04/01/2008
TIME 06:53 AM
REV OF # 080320912



(SFX: TICKING/BELL RINGS)
 FEMALE ANNCR: Between exams
 MALE TEACHER: Pencils down.



(SFX: CHEERING/CRACK) after-school activities.



(SFX: KARATE PRACTICE SOUNDS)



And tons of homework, my kid never stops. (SFX: THUD)



MALE ANNCR: Your kids have a hectic life and don't always eat right, and you don't want their defenses to be weak.



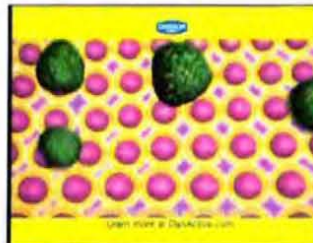
(MUSIC IN) Delicious DanActive can help strengthen them.



Only DanActive has



L. casei immunitas cultures



and is clinically proven to help strengthen your body's defenses.



FEMALE ANNCR: And a little strengthening can really help. (AUDIO LOGO) CHILDREN (UNISON): DanActive.



MALE ANNCR: Help strengthen your family's bodies defenses.



(MUSIC OUT)

VIDEO ALSO AVAILABLE IN ANALOG & DIGITAL FORMATS

Material supplied by VMS may be used for internal review, analysis or research only. Any editing, reproduction, publication, re-broadcasting, public showing or display for profit is forbidden and may violate copyright law.
 1500 Broadway, 6th Floor, New York, NY 10036 T 212 736 2010



PRODUCT Dannon DanActive
 MARKET Cincinnati, OH
 PROGRAM The King of Queens
 CODE # 090301831
 TITLE Boy Takes a Test, Karate, Takes Off

LENGTH :30
 STATION WXIX
 DATE 03/02/2009
 TIME 06:12 PM



MALE ANNCR: Exams,



(SFX: THUD) activities, homework;
 your kid's never stop



and don't always eat right and you don't
 want their defenses



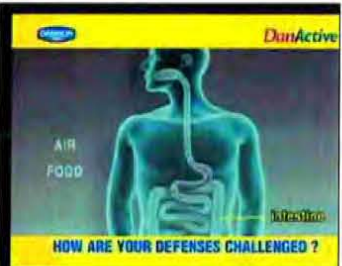
(SFX: POWER DOWN) to be weak.



DanActive can help. How?



(SFX: HISS IN) Unwanted substances
 enter your body every day



reaching your intestine where about
 (SFX: HISS OUT)



70 percent of your immune system is
 located.



When your defenses are weak, (SFX:
 BOUNCE) gaps may occur in your
 intestine wall allowing unwanted
 substances to pass.



(MUSIC IN) DanActive with L. Casei
 Immunitas



works right there



which may help your body (SFX:
 SPRING) close the gaps and help

VIDEO ALSO AVAILABLE IN ANALOG & DIGITAL FORMATS

Material supplied by VMS may be used for internal review, analysis or research only. Any editing, reproduction, publication, re-broadcasting, public showing or display for profit is forbidden and may violate copyright law.

1500 Broadway, 6th Floor, New York, NY 10036 T 212 736 2010



PRODUCT Dannon DanActive
MARKET Cincinnati, OH
PROGRAM The King of Queens
CODE # 090301831
TITLE Boy Takes a Test, Karate, Takes Off

LENGTH :30
STATION WXIX
DATE 03/02/2009
TIME 06:12 PM



(SFX: WHOOSH) strengthen his body's defenses.



(SFX: STAMP) Which makes you feel good too.



CHILDREN (SINGING): DanActive.
(MUSIC OUT)

VIDEO ALSO AVAILABLE IN ANALOG & DIGITAL FORMATS

Material supplied by VMS may be used for internal review, analysis or research only. Any editing, reproduction, publication, re-broadcasting, public showing or display for profit is forbidden and may violate copyright law.

1500 Broadway, 6th Floor, New York, NY 10036 T 212.736.2010



Helps strengthen your body's defenses.*

CLINICALLY PROVEN™



DanActive® Light: 35 calories, 0g Fat; Regular Probiotic Dairy Drink: 90 Calories, 1.5g Fat per 3.1 FL OZ

*as part of a balanced diet and healthy lifestyle

DanActive® is a delicious, probiotic-cultured dairy drink that is clinically proven to help strengthen your body's defenses as part of a balanced diet and healthy lifestyle.

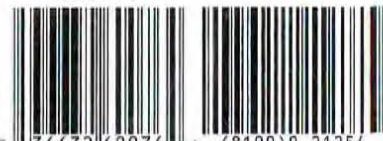
MANUFACTURER'S COUPON
EXPIRES 6/29/08
DO NOT DOUBLE

SAVE \$1.00 when you buy any DanActive® or DanActive® Light

Consumer: For ultimate consumer redemption only. Redeem this coupon when purchasing in accordance with the terms of this offer. Limit one coupon per purchase. Good only on purchase of product indicated. Any other use constitutes fraud. You pay sales tax. Void if sold, transferred, reproduced or where prohibited or restricted by law. Void in LA and where prohibited. Retailer: Retailer will be reimbursed face value plus 5¢ for handling if coupons are redeemed properly. Submit in accordance with requirements for proper coupon redemption to Dannon Coupon Redemption, CMS Department #26632, One Fawcett Drive, Del Rio, TX 78840. Invoices showing purchases of sufficient stock to cover all coupons redeemed must be provided upon request. Cash value 1/20th of 1 cent. DANNON® is a registered trademark of The Dannon Company, Inc. ©2008 The Dannon Company, Inc.



21254



5 36632 60076 4 (8100) 0 21254

Visit us at www.danactive.com

A PRODUCT OF THE DANNON GROUP ©2007 The Dannon Company, Inc.

can I learn more about DanActive

KEEP REFRIGERATED SHAKE BEFORE USING

ut DanActive ACTIVE

DISTRIBUTED BY THE DANNON COMPANY, INC. WHITE PLAINS, NY 10603

For more information, visit us at www.danactive.com or call 1-877-DANACTIVE.

CONTAINS THE ACTIVE CULTURES LACTOBACILLUS S. THERMOPHILUS AND L. CASEI IMMUNITAS™

INGREDIENTS: CULTURED REDUCED-FAT MILK, VANILLA FLAVOR, SUGAR, NATURAL VANILLA FLAVOR, DEHYDRATED MODIFIED CORN STARCH, CONTAINS LESS THAN 1% OF CITRIC ACID, SODIUM CITRATE.

Nutrition Facts

Serving Size: 1 Bottle
Servings per Package: 8

Amount Per Serving	
Calories 80	Calories from Fat 15
% Daily Value	
Total Fat 1.5g	3%
Saturated Fat 1g	2%
Total Fat 1.5g	3%
Cholesterol 5mg	1%
Sodium 40mg	1%
Potassium 130mg	3%
Total Carbohydrate 14g	3%
Sugars 14g	3%
Protein 3g	6%
Calcium 10%	

Not a significant source of Dietary Fiber.
Vanilla & Vanilla Caramel Flavors

“About 70% of your immune system is in your digestive tract. This is where DanActive goes to work with the exclusive L. casei/Immunitas™ cultures. Enjoy DanActive every morning in all our delicious flavors.”



CLINICALLY PROVEN TO HELP STRENGTHEN YOUR BODY'S DEFENSES



GOOD SOURCE OF CALCIUM



IMMUNITY

Helps Strengthen Your Body's Defenses

Vanilla WITH OTHER NATURAL FLAVORS

PROBIOTIC DAIRY DRINK

8-3.1 FL OZ (93 mL) Bottles
1.55 PT (744 mL)

JUN 17 2008
PLT 39-135 MH

7+1

WEEKLY PACK

8 Bottles



IMMUNITY

Helps Strengthen Your Body's Defenses

Vanilla WITH OTHER NATURAL FLAVORS

PROBIOTIC DAIRY DRINK

8-3.1 FL OZ (93 mL) Bottles
1.55 PT (744 mL)

7+1

WEEKLY PACK

8 Bottles



PRODUCT Dannon Activia
 MARKET National
 PROGRAM Today
 CODE # 060806735
 TITLE Daughter Tells Mom To Try It

LENGTH 30
 STATION WBAL
 DATE 08/20/2006
 TIME 08:41 AM



(MUSIC IN) DAUGHTER: Hey mom!



(SFX: DOOR CLOSING IN & OUT)
 All work and no play?



MOM: Oh, and too much take out.



I feel irregular, bloated.



PARROT: Hawk! Bloating!



(SFX: DAUGHTER GIGGLES IN & OUT) DAUGHTER: Here, try Dannon Activia. MOM: Activia.



PARROT: Activia!



FEMALE ANNCR: Delicious Dannon Activia, with the natural culture of



Bifidus Regularis, it's clinically proven to help regulate your digestive system in two weeks.



MOM: Um! Delicious. DAUGHTER: Soon you'll be back to your regular self. PARROT: Regular!



(SFX : LAUGHTER IN & OUT)
 FEMALE ANNCR: Dannon Activia, help naturally regulate your



digestive system. (MUSIC OUT)

VIDEO ALSO AVAILABLE IN ANALOG & DIGITAL FORMATS

Material supplied by VMS may be used for internal review, analysis or research only. Any editing, reproduction, publication, re-broadcasting, public showing or display for profit is forbidden and may violate copyright law.

330 West 42nd Street, New York, NY 10036 T 212 736 2010



PRODUCT Dannon Activia
 MARKET Huntsville/Decatur/Florence, AL
 PROGRAM Comics Unleashed with Byron
 CODE # 080215014
 TITLE Jamie Lee Curtis: Good & Bad

LENGTH :30
 STATION WAAY
 DATE 02-23-2008
 TIME 01:03 AM



(MUSIC IN)



JAMIE LEE CURTIS: First the bad news: 87 percent of this country suffers from digestive issues like occasional irregularity.



No wonder. Our busy lives sometimes force us to eat the wrong things at the wrong times.



Now the good news: I just discovered a yogurt called Activia that can help.



MALE ANNCR: With a natural culture, bifidus regularis, Activia eaten every day



is clinically proven to help regulate your digestive system in two weeks.



JAMIE LEE CURTIS: The other good news: Activia tastes great.



FEMALE SINGERS: Activia.



(MUSIC OUT)

VIDEO ALSO AVAILABLE IN ANALOG & DIGITAL FORMATS

Material supplied by VMS may be used for internal review, analysis or research only. Any editing, reproduction, publication, re-broadcasting, public showing or display for profit is forbidden and may violate copyright law.

1500 Broadway, 8th Floor, New York, NY 10036 T 212 736 2010



- HOME
- ABOUT ACTIVIA™
- PRODUCTS
- ABOUT BIFIDUS REGULARIS™
- WHAT ARE PROBIOTICS?
- MAINTAINING DIGESTIVE HEALTH
- FOR HEALTH CARE PROFESSIONALS
- TAKE THE CHALLENGE
- FAQs

Take the
14 DAY ACTIVIA™
Challenge™
Click for Coupon!

START TODAY

great flavors and sizes

[LEARN MORE](#)

Clinical proof

Activia with Bifidus Regularis is scientifically proven to help with slow intestinal transit when eaten daily for two weeks, as part of a balanced diet and healthy lifestyle.

[LEARN MORE](#)

what are probiotics?

Well-known to nutritionists and health editors for years, these helpful natural cultures are behind a new wave of "functional foods."

[LEARN MORE](#)

ACTIVIA™ IN THE NEWS

[Read News](#)

ACTIVIA™ ON THE AIR

If you haven't seen our latest television commercial, you can watch it here.

[Watch now](#)

[SEND TO A FRIEND](#)

[EMAIL UPDATES](#)



ACTIVIA IN THE NEWS

- HOME
- ABOUT ACTIVIA®
- PRODUCTS
- ABOUT BIFIDUS REGULARIS™
- WHAT ARE PROBIOTICS?
- MAINTAINING DIGESTIVE HEALTH
- FOR HEALTH CARE PROFESSIONALS
- TAKE THE CHALLENGE
- FAQS



glossary
of digestive health terms
Here's a helpful list of digestive health terms.

GO

FOR HEALTH CARE PROFESSIONALS

Information is Vital
As more and more people talk about the health benefits of **probiotic** foods, it's important that you have access to reliable scientific findings. For twenty years, the scientists at Dannon, in partnership with numerous independent laboratories, have conducted research on the health effects of **probiotics**, including Activia yogurt. Here, we've printed the results of our research to date on Activia with **Bifidus Regularis** and will continue to update this site as more results are available.



Scientific Resources
For health care professionals, who'd like to learn more about Activia and **Bifidus Regularis**, here is a link to a detailed scientific resource that will provide in-depth information about **Bifidus Regularis** and its effect on slow **intestinal transit**.

 [Scientific Summary For Health Care Professionals \(1024 kb\)](#)

(If you don't have Adobe Acrobat 5.0, [click here](#) to download.)

[View List of Peer-Reviewed Scientific Summaries](#)



Calendar of Events
Click the link at right for a **listing** of medical conferences that will be **attended** by Activia representatives.

[CLICK HERE](#)



**Healthcare Professionals:
Sign up to receive a Referral Pad**

Recommend ACTIVIA today! [CLICK HERE](#)

[SEND TO A FRIEND](#) | [EMAIL UPDATES](#)



Scientific studies now support many claims about the beneficial properties of probiotics.

NEWS | DANNON.COM | CONTACT US | PRODUCT INFO | STORE LOCATOR | TV ADS | SITE MAP

A lowfat yogurt that helps naturally regulate the digestive system

Presenting—ACTIVIA® by Dannon®

Clinically proven to help regulate the digestive system when eaten daily for two weeks.

- ACTIVIA® is a creamy, blended, probiotic-cultured, lowfat yogurt.
- ACTIVIA® helps with slow intestinal transit and contains a unique culture – *Bifidus Regularis*.™
- ACTIVIA® has the great taste and quality that you expect from Dannon.®



ACTIVIA® helps naturally regulate your digestive system

ACTIVIA® is a probiotic, lowfat yogurt that contains a unique culture, *Bifidus Regularis*,™ clinically proven to survive passage through the gastrointestinal tract and scientifically known as *Bifidobacterium animalis* DN-173 010.

Daily consumption of ACTIVIA® helps with slow intestinal transit, particularly in women and the elderly. ACTIVIA® also possesses the standard nutritional qualities of a dairy product, thanks to the proteins and calcium it contains.



What are probiotics?

Probiotics are living microorganisms that, upon ingestion in sufficient numbers, exert health benefits beyond basic nutrition.

The gastrointestinal tract, the intestinal microflora, and intestinal transit

The gastrointestinal (GI) tract and the intestinal microflora

The GI tract is an extremely complex environment with multiple functions. The small intestine acts as the main site of enzymatic digestion of foods and absorption of nutrients. The colon or large intestine absorbs large quantities of water and electrolytes and allows evacuation of waste matter and toxic substances. The colon also appears to be responsible for regulation of intestinal well-being, particularly through its complex bacterial microflora and maintenance of intestinal balance.

The intestinal microflora of each individual is highly specific and remains remarkably stable over time.¹ However, it develops in stages throughout the individual's lifetime as a result of diet, host health status and environmental conditions. The intestinal tract of an adult human contains microflora comprising approximately 10¹¹ microorganisms per gram of stool, with approximately 400 to 500 different bacterial species. The dominant population consists of strict anaerobic bacteria: *Bacteroides*, *Bifidobacterium*, *Eubacterium* and *Peptostreptococcus*.²

A balanced intestinal microflora rich in bifidobacteria helps ensure optimal functioning of the digestive system.^{3,4} Research suggests that when the intestinal microflora is out of balance, it may affect overall health. This balance can be disturbed during physical or psychological stress, with age, in menopause, during drug treatment (e.g., antibiotics) and in the event of acute or chronic intestinal diseases.^{5,6,7} The intestinal microflora balance can be temporarily restored by ingestion of certain probiotics.⁸

Intestinal transit

Intestinal transit is the process by which gut intestinal contents pass through the digestive system. The average transit time from mouth to anus in a healthy adult takes under 72 hours and most of this transit time is spent in the colon. Transit time varies significantly between individuals in spite of identical diet and also varies within specific individuals. In addition, it appears that transit time is longer in women than in men and increases with age.⁹

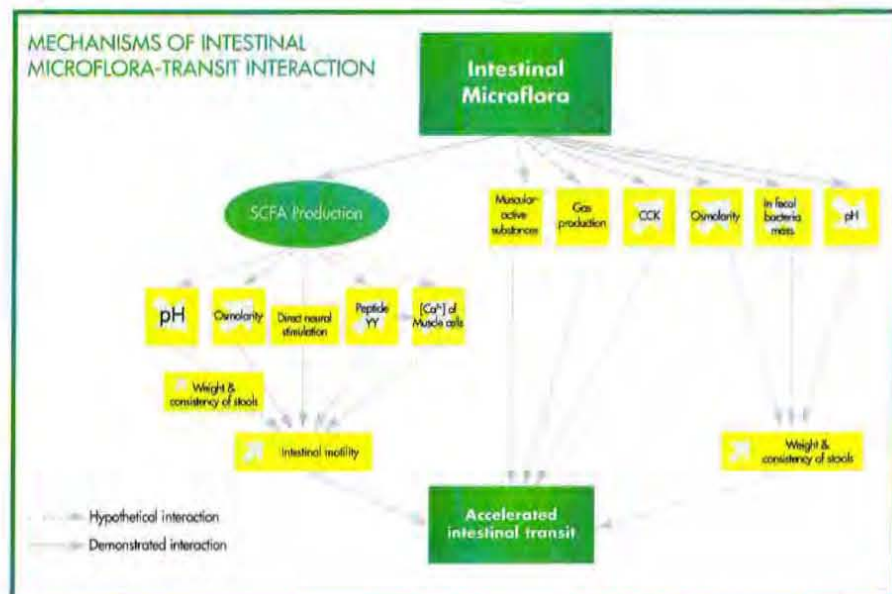
Intestinal transit is affected not only by the quality of the diet and by environmental parameters (e.g., age, stress, etc.), but also by the intestinal microflora.

Slow transit is not necessarily pathological and it corresponds to the upper limit of normal transit time and is between 48 and 72 hours. However, slow intestinal transit is a source of daily discomfort for a large proportion of the population and the physical and physiological consequences on the quality of life should not be underestimated. Bloating, heaviness, difficult and painful defecation are all troublesome symptoms when they become chronic.¹⁰

A total transit time exceeding 72 hours is considered abnormally long and normally gives rise to a diagnosis of constipation, also involving excessive dehydration of stools. Maintaining a regular intestinal transit is therefore essential for health and general well-being.

Interaction between intestinal microflora and transit

Several studies have attempted to determine the mechanisms by which the intestinal microflora stimulates transit. These studies focus particularly on the effects of products from bacterial fermentation, such as Short-Chain Fatty Acids (SCFA), and on physicochemical modifications induced by the microflora. Various hypotheses, illustrated on the diagram below, have pertained to the effects of the intestinal microflora on transit.^{11,12,13,14,15,16}



Clinical Evidence

Since certain strains of probiotics have been identified through their beneficial effect on the endogenous intestinal microflora, it was logical to assess their impact on transit. Bifidobacteria have thus been particularly and closely studied in man.¹⁷ Their effects on transit have been clearly demonstrated through studies performed recently with ACTIVIA[®] by Dannon[®] and its specific strain: *Bifidobacterium animalis* DN -173 010.^{18,19,20,21} Dannon's *Bifidobacterium animalis* DN -173 010 is an exclusive probiotic culture of food origin, which is found live and in large quantities in ACTIVIA[®] and remains stable throughout the product shelf life.

Effects of ACTIVIA[®] and/or *Bifidobacterium animalis* DN-173 010 on transit time in healthy adults¹⁸

In a parallel, double-blind study including 72 healthy adult volunteers (mean age 30 years), the ingestion of a fermented milk (3x125 g/day) containing the strain *Bifidobacterium animalis* DN-173 010, for 11 days, significantly reduces total colonic transit time by 21% and sigmoid transit time by 39% compared to an identical fermented milk (3x125 g/day) in which bacteria were killed by heat treatment. The effect was more pronounced in women ($p < 0.03$), particularly in those with a long baseline transit time compared to men ($p < 0.05$). These beneficial effects were not found with heat-treated product, suggesting that both probiotic survival and metabolic activity are necessary.

Action of ACTIVIA[®] on colonic transit time in women¹⁹

A double-blind, randomized, cross-over study including 36 healthy women (mean age 27 years) compared the efficacy of ACTIVIA[®] (3x125 g/day) with a fermented milk preparation containing no *Bifidobacterium animalis* DN -173 010 (3x125 g/day) during a consumption period of 10 days. Total colonic and sigmoid transit times were significantly shortened ($p < 0.05$) with ACTIVIA[®] versus control (51.5 +/- 30.2 hours vs. 60.7 +/- 27.1; sigmoid: 21.6 +/- 14.9 hours vs. 26.8 +/- 14.2). In women with a total transit time of more than 40 hours, the sigmoid transit time and total transit time were significantly shorter following consumption of ACTIVIA[®] versus the baseline values recorded prior to consumption.

Effects of ACTIVIA[®] on total transit time in elderly subjects^{20,21}

Two randomized studies investigated the efficacy of different doses of ACTIVIA[®] with *Bifidobacterium animalis* DN -173 010 on transit time by focusing on elderly subjects. The first study (total 100 subjects) showed that consumption of 2x125 g or 3x125 g of ACTIVIA[®] per day for two weeks significantly reduced intestinal transit time ($p < 0.001$). A 10% reduction was found in the groups with a short transit time (less than 40 hours) and a 40% reduction was found in groups with a long transit time (greater than 40 hours). The results were greater in those elderly subjects who had 3x125 g of ACTIVIA[®] versus 2x125 g ($p < 0.05$). Intestinal transit time is shortened in elderly subjects by consumption of two or three cups of ACTIVIA[®] for two weeks.

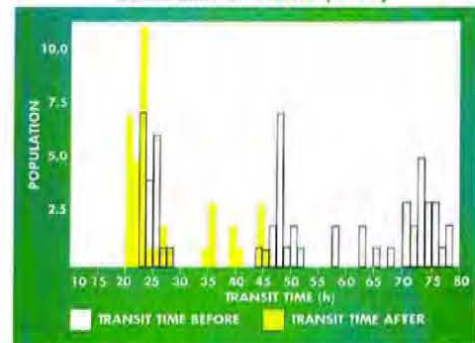
A second, large-scale, controlled study evaluated lower doses and the duration of the beneficial effects after discontinuing consumption of the product. The study included

200 elderly, healthy volunteers, aged 50–75 years, divided in two groups—100 with moderate transit time (40–50 hours) and

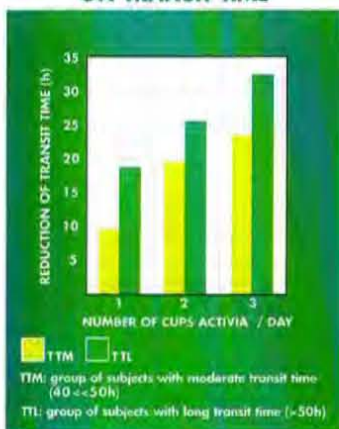
100 with a longer transit time (50–70 hours), who were randomized to receive either 1x125 g or 2x125 g of ACTIVIA[®] per day for 2 weeks. Consumption of one or two 125 g cups of ACTIVIA[®] significantly reduced intestinal transit time, both in subjects with moderate and long transit times ($p < 0.05$). However, two servings per day were more effective than one serving per day ($p < 0.05$). The action of ACTIVIA[®] persisted for at least two weeks after the end of consumption of one serving and for at least four weeks after the end of ingestion of two servings of ACTIVIA[®].

In conclusion, these two studies demonstrate the efficacy of ACTIVIA[®] in reducing transit time in elderly subjects, particularly in those with long transit times. A dose-dependent effect was observed (from 1 to 3 cups).

TRANSIT TIME BEFORE AND AFTER CONSUMPTION OF 3 CUPS OF ACTIVIA[®] PER DAY FOR 2 WEEKS IN ELDERLY SUBJECTS (n=39)



DOSE-EFFECT OF ACTIVIA[®] ON TRANSIT TIME



Clinically proven to survive in the GI Tract

ACTIVIA® contains *Bifidobacterium animalis* DN-173 010, which has been clinically proven to survive the passage through the gastrointestinal tract.

Various human studies have been performed to demonstrate the high survival of *Bifidobacterium animalis* DN-173 010 in the digestive system when consumed in a fermented dairy product.^{22,23,24,25}

- * *Bifidobacterium animalis* DN-173 010, incorporated in ACTIVIA®, survived successfully (10⁵–10⁶ cfu/g) for at least 90 minutes in the stomach, while another commercial strain was much less resistant. The shelf life of the product does not affect the survival capability of *Bifidobacterium animalis* DN-173 010.
- * *Bifidobacterium animalis* DN-173 010, incorporated in ACTIVIA®, survived passage through the entire gastrointestinal tract and was recovered live and in large quantities in stools (>10⁶ cfu/g). The amount of *Bifidobacterium animalis* DN-173 010 recovered was similar to the quantity initially ingested.

ACTIVIA® Benefits

- * ACTIVIA® by Dannon® is clinically proven to naturally help regulate your digestive system in two weeks when consumed daily, as part of a healthy lifestyle and balanced diet.
- * Daily consumption of ACTIVIA® helps with slow intestinal transit, particularly in women and elderly subjects. In subjects whose digestive system functions regularly, no marked change or risk of diarrhea was observed.
- * The effect of ACTIVIA® is in part due to *Bifidobacterium animalis* DN-173 010, a unique probiotic culture, clinically proven to survive passage through the gastrointestinal tract.

How to recommend ACTIVIA® for your patients

- * ACTIVIA® by Dannon® helps optimize the function of the gastrointestinal tract, helping to achieve a more regular intestinal transit, leading, in turn, to better daily well-being and a natural regulation of the digestive system.
- * The scientifically demonstrated benefits allow us to recommend regular daily consumption of ACTIVIA® by Dannon® for everyone.
- * ACTIVIA® is suitable for the entire family and can be included as part of a balanced diet.

ACTIVIA® Product Information

- * ACTIVIA® is available in 6 tasty flavors: vanilla, strawberry, mixed berry, prune, peach and blueberry.
- * ACTIVIA® contains no artificial flavors or preservatives.
- * ACTIVIA® is a probiotic-cultured, lowfat yogurt.
- * ACTIVIA® is Kosher certified.
- * Now available—ACTIVIA® Light, 70 calories per 4-oz cup.

Nutrition Facts	
Serving Size 1 container (113g)	
Amount Per Serving	
Calories 110	Calories from Fat 20
% Daily Value*	
Total Fat 2g	3%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 5mg	2%
Sodium 75mg	3%
Potassium 220mg	6%
Total Carbohydrate 19g	6%
Dietary Fiber 0g	0%
Sugars 17g	
Protein 5g	10%
Vitamin A 0%	Vitamin C 0%
Calcium 15%	Iron 0%

Strawberry as dated 12/14/06

Visit www.activia.com for stores and availability and to obtain a copy of our Scientific Summary. For more information on probiotics, visit www.dannonprobioticscenter.com

References

1. Fish AH. Editorial: Soluble dietary fiber and short-chain fatty acids: An advance in understanding the human bacterial flora. *Am J Gastroenterol*. 1990; 85: 1313-4. 2. Hovestad T. The normal microflora and short-chain fatty acids, presented at 5th Bengt E Gustafsen Symposium (Stockholm, Sweden), June 1989. 3. Macfarlane GT, Macfarlane S. Human Colonic Microbiota: Ecology, Physiology and Metabolic Potential of Intestinal Bacteria. *Scand J Gastroenterol*. 1997; 32 (suppl 222): 5-9. 4. Neidu AS, et al. Probiotic spectra of Lactic acid bacteria. Critical review in *Food Science and Nutrition*, 1990; 38 (1): 13-126. 5. Mitsuoka T, et al. The fecal flora of man. II. Communication: the composition of *Bifidobacterium* flora of different age groups. *Zentralblatt Bakteriell*. 1974; 226(4): 469-78. 6. Razizoglou E, et al. Influence of psychological stress on the fecal carriage of indicator bacteria. *Microecology and Therapy*. 1999; 28: 49-53. 7. Saiminen S, et al. Gut Flora in normal and disordered states. *Chemotherapy*. 1995; 41 (suppl 1): 5-15. 8. Johansson AH, et al. Administration of different *Lactobacillus* strains in fermented oatmeal soups in vivo colonization of human intestinal mucosa and effect on the indigenous flora. *Appl Environ Microbiol*. 1993; 59(1): 15-20. 9. Wyman JE, et al. Viability of colonic function in healthy subjects. *Gut*. 1978; 19: 146-50. 10. Bassotti G, et al. Colonic motility in man: features in normal subjects and in patients with chronic idiopathic constipation. *Am J Gastroenterol*. 1999; 1160-1740. 11. Aube AC. Short-chain fatty acids: Their role in intestinal pathophysiology and therapeutic potential in gastroenterology. *Gastroenterol Int*. 1995; 8(A): 167-176. 12. Goodlad RA, et al. Effects of an elemental diet, inert bulk and different types of dietary fibers on the response of the intestinal epithelium to refeeding in the rat and relationship to plasma gastrin, enteroglucagon and PYY concentrations. *Gut*. 1987; 28: 171-80. 13. Husebye E, et al. Intestinal microflora stimulates mucocytic activity of rat small intestine by promoting cyclic initiators and aboral propagation of migrating myoelectric complex. *Dig Dis Sci*. 1994; 39 (5): 946-955. 14. Abrams GD, et al. Effect of the normal microbial flora on gastrointestinal motility. *PEP&M*. 1957; 12: 301-304. 15. Barniello S. Bacteria and gastrointestinal secretion motility. *Scand J Gastroenterol (suppl)*. 1984; 95: 115-121. 16. Cummings JH. Constipation, dietary fiber and the control of large bowel function. *Post Med J*. 1984; 60: 811-819. 17. Picard C, et al. Review article: Bifidobacteria as probiotic agents—physiological effects and clinical benefits. *Aliment Pharmacol Ther*. 2005; 22: 495-512. 18. Bower M, et al. Effects of consumption of a milk fermented by the probiotic *Bifidobacterium animalis* DN-173 010 on colonic transit time in healthy humans. *Bioscience and Microbiol*. 2001; Vol 20(2): 43-48. 19. Marteau P, et al. *Bifidobacterium animalis* strain DN-173 010 shortens the colonic transit time in healthy women. A double-blind randomised controlled study. *Aliment Pharmacol Ther*. 2002; 16: 587-593. 20. Méance S, et al. A fermented milk with *Bifidobacterium* probiotic strain DN-173 010 shortened oro-fecal gut transit time in elderly. *Microb Ecology Health Dis*. 2001; 15: 217-222. 21. Méance S, et al. Recent advance in the use of functional foods: Effect of the commercial fermented milk with *Bifidobacterium animalis* strain DN-173 010 and yogurt strains on gut transit time in the elderly. *Microb Ecology Health Dis*. 2003; 15: 15-22. 22. Berada N, et al. Bifidobacterium from fermented milk: Survival during gastric transit. *J Dairy Sci*. 1991; 74: 408-413. 23. Pochart P, et al. Survival of *Bifidobacteria* ingested via fermented milk during their passage through the human small intestine: an *in vivo* study using intestinal perfusion. *Am J Clin Nutr*. 1992; 55:78-80. 24. Pochart P, et al. Isolement des bifidobactéries dans les selles après ingestion prolongée de lait au bifidus. *Med Mal Infect*. 1990; 20: 75-78. 25. Duetz H, et al. A colony - immunoblotting method for quantitative detection of a *Bifidobacterium animalis* probiotic strain in human faeces. *Journal of Applied Microbiology*. 2000; 88: 1019-27.

DANNON is a registered trademark and ACTIVIA is a trademark of the Dannon Company, Inc. ©2007 The Dannon Company, Inc. All rights reserved. Printed in the USA.



***Bifidobacterium animalis* strain DN-173 010 shortens the colonic transit time in healthy women: a double-blind, randomized, controlled study**

P. Marteau, E. Cullerier, S. Meance, MF. Gerhardt, A. Miyara, M. Bouvier, C. Bouley, F. Tondu, G. Bommelaer and JC. Grimaud
Aliment Pharmacol. Ther., 2002, 16: 587-593

Background: A previous study has suggested that *Bifidobacterium animalis* DN-173 010 shortens the colonic transit time in women. **Aim:** To confirm this effect and to determine whether modifications of the faecal bacterial mass and/or faecal secondary bile salts may be the explanation. **Methods:** A double-blind, cross-over study was performed. Thirty-six healthy women were studied in four consecutive 10-day periods. During periods 2 and 4, they ingested three 125 g cups per day of a fermented milk which was either a product containing *B. animalis* DN-173 010 or a control without bifidobacteria. Periods 1 and 3 were run-in and washout periods, respectively. The total and segmental colonic transit times were assessed using a pepper method. In 12 subjects, all stools were collected and analysed for pH, faecal weight, bacterial mass and bile acids. **Results:** The total and sigmoid transit times were significantly shorter during dosing with *B. animalis* compared to the control period. The other transit times, faecal weight, pH, bacterial mass and bile acids were not significantly affected. **Conclusions:** *B. animalis* DN-173 010 shortens the colonic transit time in healthy women. This effect is not explained by modifications of the faecal bacterial mass or secondary bile acids.

Effect of a fermented milk containing *Bifidobacterium animalis* strain DN-173 010 on the health-related quality of life and symptoms in irritable bowel syndrome in adults in primary care: a multicentre, randomized, double-blind, controlled trial

D. Guyonnet, G. Chassany, P. Ducrotte, C. Picard, M. Mouret, C.-H. Mercier and C. Matuchiansky
Aliment Pharmacol. Ther., 2007, 26: 475-488

Summary Background: Health-related quality of life (HRQL) has been rarely evaluated as a primary endpoint in the assessment of the effect of probiotics on the irritable bowel syndrome (IBS). **Aim:** To study the effects of fermented milk containing *Bifidobacterium animalis* DN-173 010 and yogurt strains on the IBS in a multicentre, double-blind, controlled trial. **Methods:** A total of 274 primary care adults with constipation-predominant IBS (Rome II) were randomized to consume for 6 weeks either the test fermented milk or a heat-treated yogurt (control). HRQL and digestive symptoms were assessed after 3 and 6 weeks in an intention-to-treat population of 267 subjects. **Results:** The HRQL discomfort score, the primary endpoint, improved ($p < 0.001$) in both groups at weeks 3 and 6. The responder rate for the HRQL discomfort score was higher (65.2 vs. 47.7%, $p < 0.005$), as was the decrease in bloating score (0.56 ± 1.01 vs. 0.31 ± 0.87, $p = 0.03$) at week 3 in the test vs. the control group. In those subjects with <3 stools/week, stool frequency increased ($p < 0.001$) over 6 weeks in the test vs. control group. **Conclusions:** This study suggests a beneficial effect of a probiotic food on discomfort HRQL score and bloating in constipation-predominant IBS, and an stool frequency in subjects with <3 stools/week.

Review article: Bifidobacteria as probiotic agents – physiological effects and clinical benefits

C. Picard, J. Fioramonti, A. Francois, T. Robinson, F. Neant and C. Matuchiansky
Aliment Pharmacol. Ther., 2005, 22: 495-512

Summary: Bifidobacteria, naturally present in the dominant colonic microbiota, represent up to 25% of the cultivable faecal bacteria in adults and 80% in infants. As probiotic agents, bifidobacteria have been studied for their efficacy in the prevention and treatment of a broad spectrum of animal and/or human gastrointestinal disorders, such as colonic transit disorders, intestinal infections, and colonic adenomas and cancer. The aim of this review is to focus on the gastrointestinal effects of bifidobacteria as probiotic agents in animal models and man. The traditional use of bifidobacteria in fermented dairy products and the GRAS (Generally Recognised As Safe) status of certain strains attest to their safety. Some strains, especially *Bifidobacterium animalis* strain DN-173 010 which has long been used in fermented dairy products, show high gastrointestinal survival capacity and exhibit probiotic properties in the colon. Bifidobacteria are able to prevent or alleviate infectious diarrhoea through their effects on the immune system and resistance to colonization by pathogens. There is some experimental evidence that certain bifidobacteria may actually protect the host from carcinogenic activity of intestinal flora. Bifidobacteria may exert protective antineoplastic actions through various mechanisms, and represent promising advances in the fields of prophylaxis and therapy.

Survival of bifidobacteria ingested via fermented milk during their passage through the human small intestine: an in vivo study using intestinal perfusion

P. Pochart, P. Marteau, Y. Soubmik, I. Gouérel, P. Bourlioux and JC. Rambaud
Am. J. Clin. Nutr., 1992, 55: 78-80

Abstract: The ability of a strain of *Bifidobacterium* sp to survive passage through the upper gastrointestinal tract when ingested in fermented milk was investigated in six fasting healthy adults by using *in vivo* ileal perfusion. After ingestion of 10.0±0.5 log₁₀ bifidobacteria in 400 g fermented milk, ileal flow of bifidobacteria increased significantly and reached a maximum of 8.8±0.2 log₁₀ bifidobacteria/1.7±0.4 h after ingestion of fermented milk. The average number of bifidobacteria recovered from the terminal ileum during the 8 h after fermented-milk ingestion was 9.0±0.1 log₁₀ and constituted 23.5± 0.4% of the number ingested. These results indicate that in healthy adults, *Bifidobacterium* sp survive transit through the gastrointestinal tract when ingested in fermented milk. Further studies are needed to investigate the behavior of these exogenous bacteria in the colonic lumen and to explore their effects on the physiology of the human gastrointestinal tract.



A colony immunoblotting method for quantitative detection of a *Bifidobacterium animalis* probiotic strain in human faeces

H. Duez, C. Pelletier, S. Cools, E. Aissi, C. Cayuela, F. Gavini, S. Bouquelet, C. Neut and J. Mengaud
Journal of Applied Microbiology, 2000; 88: 1019-1027

Abstract: A colony immunoblotting method has been developed to allow detection of the probiotic *Bifidobacterium animalis* strain DN-173 010 in human faecal samples. Rabbits were immunized with heat-killed DN-173 010 bacteria resulting in the production of an antiserum highly specific for bacteria belonging to *Bif. animalis* species. Of the 89 strains representative of 29 different bifidobacterial species tested, only 15 strains of the *Bif. animalis* species could be detected with the antiserum. In Western immunoblotting the serum reacts with a protein of 45-kDa apparent molecular weight. None of the bacteria classically encountered in human faecal samples and able to grow on non-selective Columbia blood agar (enterobacteria, *Bacteroides* or *Lactobacillus* for instance) reacted with the antiserum. Taking advantage of the high specificity of the antiserum and the absence of *Bif. animalis* bacteria in faeces samples of five human volunteers, we demonstrated that strain DN-173 010 survives the intestinal transit. Being based on a combination of semiselective cultivation and colony immunoblotting techniques, the method allowed detection of the *Bif. animalis* strain even when it represented only one thousandth of the total bifidobacterial population.

Isolement des Bifidobactéries dans les selles après ingestion prolongée de lait au bifidus (LB) – Recovery of bifidobacteria (Bif) in feces after prolonged digestion of bifidus milk (BM)

P. Pochart, P. Morteau, N. Bisetti, I. Godereel, P. Bourlioux and J.C. Rambaud
Méd. Mal. Infect., 1990; hors série: 75-78 (publication in French)

Abstract: Since many authors considered that bifidobacteria (Bif) play an important role in the resistance of the colonic microflora to pathogen colonization, there has been renewed interest in the consumption of milk fermented with these bacteria (BM). However data on the survival of ingested Bif in the GIT are not yet available. Therefore, we investigated the recovery of Bif ingested in BM in the feces of 12 adults (6 men and 6 women, 17-50 yr). The experiments comprised 3 consecutive 10-day periods: baseline, the test period, and the wash-out period. During the test period subjects ingested 3 times per day 125 g BM (10^8 Bif/g) or yogurt (Y). Spores of *Bacillus* (SBS) were added to both fermented products (10^8 SBS/g) as a transit marker. All the subjects were tested for BM and Y in a random order. Faecal samples were obtained every 5th day and Bif were enumerated on selective medium incubated anaerobically for 5 days at 37°C and SBS on PCA agar incubated aerobically for 24 h at 65°C.

A fermented milk with a *Bifidobacterium* probiotic strain DN-173 010 shortened oro-faecal gut transit time in elderly

S. Méance, C. Cayuela, P. Turchet, A. Raimondi, C. Lucas and JM. Antoine
Microbiological Ecology in Health and Disease, 2001; 13: 217-222

Fermented milks have been proposed to modulate gut transit time. Reduction of long transit time may be of importance in decreasing susceptibility to some large bowel diseases. **Objective:** to assess the effect on gut transit time in free-living elderly of a regular consumption of the milk fermented by the probiotic strain *Bifidobacterium animalis* DN-173 010 (10^8 CFU/g) and lactic acid cultures (10^8 CFU/g) (BM). **Design:** a randomized study was performed with 4 groups: 50 subjects with a stable transit time under 40 h (UTT : 24.6 h, SD = 1.7) and 50 subjects with a stable transit time over or equal to 40 h (OTT : 64.1 h, SD = 13.3) were included. Subjects from each transit group were randomly assigned to eat during 2 weeks, either 2 or 3 servings per day of BM. The oro-faecal transit time was measured before and after BM consumption using a colored marker technique. **Results:** in the 4 groups, comparing values before and after BM consumption, the transit time reductions were statistically significant, being around 10% in UTT and around 40% in OTT ($p < 0.001$). In UTT as well as in OTT, 3 BM were more active than 2 BM ($p < 0.05$). **Conclusions:** in elderly, the long gut transit times have been shortened by a 2-week regular consumption of the milk fermented with the strain *Bifidobacterium animalis* DN-173 010 and lactic cultures. This specific fermented milk can be considered as a functional food.

Effects of consumption of a milk fermented by the probiotic strain *Bifidobacterium animalis* DN-173 010 on colonic transit time in healthy humans

M. Bouvier, S. Méance, C. Bouley, J.L. Berta and J.C. Grimaud
Bioscience Microflora, 2001; Vol. 20 (2), 43-48

Objectives: The aim of our study was to ascertain whether the specific *Bifidobacterium animalis* DN-173 010 fermented milk could modulate colonic transit time in humans. Bifidobacteria are a major component of the gut microflora and may interact with gut transit. **Methods:** The trial compared in a parallel double-blind study in seventy-two healthy volunteers the effect of a *Bifidobacterium animalis* fermented milk containing 2.5×10^8 CFU/g living bifidobacteria versus heat-treated *Bifidobacterium* fermented milk on colonic transit times. The main marker was the total colonic transit time (CTT) measured with radio-opaque pellets. Segmental colonic transit times were also calculated. **Results:** A 11-day consumption of this *Bifidobacterium animalis* DN-173 010 fermented milk significantly reduced the total CTT (-20.6%) comparatively to the initial CTT and to the control group where no significant change were recorded. The effect was more pronounced in women than in men. **Conclusion:** our study demonstrated that the consumption of the fermented milk containing living *Bifidobacterium animalis* DN-173 010 was able to improve CTT in humans.

Recent advances in the use of functional foods: effects of the commercial fermented milk with *Bifidobacterium animalis* strain DN-173 010 and yoghurt strains on gut transit time in the elderly

S. Méance, C. Cayuela, A. Raimondi, P. Turchet, C. Lucas and JM. Antoine
Microbiological Ecology in Health and Disease, 2003; 15: 15-22

Fermented milk products containing the probiotic strain *Bifidobacterium animalis* DN-173 010 (BM), have a beneficial effect in reducing gut transit times in a range of populations including adults and the elderly, especially female. The aims of this study were to investigate the efficacy of one and two servings per day of BM in elderly subjects and to determine the duration of the reduction in transit times after stopping consumption of the product. This was a randomized, controlled and open study with four groups. 200 elderly subjects (aged 50-75 years) were enrolled in the trial. In all, one hundred subjects with medium transit times (MTT, 40-50 hr) and 100 with slow transit times (STT, >50 hr) were randomized to receive either 125 g or 250 g BM daily for 2 weeks. Oro-faecal gut transit was determined by the use of colored markers. Both dosages significantly reduced oro-faecal transit time with reductions of 20.5% and 42.2% observed in MTT subjects receiving BM 125 g/day and 250 g/day, respectively ($p < 0.0001$). Corresponding reductions in STT subjects were 27.7% and 38.1%, respectively. The beneficial effects of BM lasted long after consumption of the product was stopped, with values returning to baseline in subjects with MTT at 6 weeks follow-up and in STT subjects consuming 125 g/day BM at 4 weeks follow-up. Significant differences in transit times were still observed at week 6 of follow-up in STT subjects receiving 250 g/day BM. This study completes and confirms the dose-dependent effects of BM from 0 to 250 g per day and can be compared with similar results obtained with 250 g to 375 g per day in a previous study on transit times in elderly subjects. It also demonstrates that there are significant beneficial effects long after consumption of the product has stopped. The results suggest an important role for this probiotic dairy product in fundamentally modulating gastrointestinal function that could beneficially affect the host, and hence reduce the susceptibility to conditions associated with delayed gut transit.

Bifidobacterium from fermented milks: survival during gastric transit

N. Barrada, J.F. Lemeland, G. Laroche, P. Thouvenot and M. Piaia
J. Dairy Sci., 1991; 74: 409-413

Abstract: Two *Bifidobacterium* strains contained in two different fermented milks behave very differently when exposed to an *in vitro* simulated gastric environment. One strain survives very well during at least 90 min (> 10^6 /g), but the second strain studied is much less resistant. These *in vitro* results, with slight differences, were confirmed by an *in vivo* study in humans. The assessment of the gastric emptying rate of these products allows an estimation of the amount of *Bifidobacterium* that may pass into the small intestine.