



digestwel+™

chewable enzymes

Digestwel+ supports the breakdown and absorption of nutrients.*

- Amylase
- Protease
- Papain
- Bromelain
- Invertase
- Lipase
- Maltase
- Glucoamylase



Avisae OpimALL Nutrition™ digestwel+™ chewable enzymes is the ONLY full-spectrum digestive aid that helps your body's gastrointestinal tract efficiently digest all types of food.*

AMYLASE

Amylase is one of the primary starch-digesting enzymes and may help lower autoimmune responses, lower swelling and redness, and lessen the effects of aging.

- o Suarez F, Levitt MD, Adsheed J, Barkin JS. Pancreatic supplements reduce symptomatic response of healthy subjects to a high fat meal. *Dig Dis Sci*. 1999 Jul;44(7):1317-21.
- o Stauder G, Ransberger K, Streichhan P, Van Schaik W, Pollinger W. The use of hydrolytic enzymes as adjuvant therapy in AIDS/ARC/LAS patients. *Biomed Pharmacother*. 1988;42(1):31-4.
- o Stauder G. Pharmacological effects of oral enzyme combinations. *Cas Lek Cesk*. 1995 Oct 4;134(19):620-4.
- o Nouza K. [Systemic enzyme therapy in diseases of the vascular system]. *Bratisl Lek Listy*. 1995 Oct;96(10):566-9. Czech.
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- o Klein G, Kullich W, Schnitker J, Schwann H. Efficacy and tolerance of an oral enzyme combination in painful osteoarthritis of the hip. A double-blind, randomised study comparing oral enzymes with non-steroidal anti-inflammatory drugs. *Clin Exp Rheumatol*. 2006 Jan-Feb;24(1):25-30.
- o Akhtar NM, Naseer R, Farooqi AZ, Aziz W, Nazir M. Oral enzyme combination versus diclofenac in the treatment of osteoarthritis of the knee—a double-blind prospective randomized study. *Clin Rheumatol*. 2004 Oct;23(5):410-5. Epub 2004 Jul 24.
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- o Leipner J, Iten F, Saller R. Therapy with proteolytic enzymes in rheumatic disorders. *BioDrugs*. 2001;15(12):779-89. Review.
- o Novak JF, Trnka F. Proenzyme therapy of cancer. *Anticancer Res*. 2005 Mar-Apr;25(2A):1157-77. Erratum in: *Anticancer Res*. 2005 May-Jun;25(3c):2593.
- o Leipner J, Saller R. Systemic enzyme therapy in oncology: effect and mode of action. *Drugs*. 2000 Apr;59(4):769-80. Review.
- o Greenberg RE, Holt PR. Influence of aging upon pancreatic digestive enzymes. *Dig Dis Sci*. 1986 Sep;31(9):970-7.
- o Tiscornia OM, Cresta MA, de Lehmann ES, Celener D, Dreiling DA. Effects of sex and age on pancreatic secretion. *Int J Pancreatol*. 1986 Jul;1(2):95-118.

PROTEASE

Protease is a type of enzyme that breaks down proteins and has been used in cancer treatment protocols to dissolve the protein coating on the outside of cancer cells, as well as assist in injury recovery, and burns.

- o <https://www.cancertutor.com/metabolic/>
- o Buck JE, Phillips N. Trial of Chymoral in professional footballers. *Br J Clin Pract*. 1970 Sep;24(9):375-7.
- o Craig RP. The quantitative evaluation of the use of oral proteolytic enzymes in the treatment of sprained ankles. *Injury*. 1975 May;6(4):313-6.
- o Fisher JD, Weeks RL, Curry WM, Hrinca ME, Rosen LL. Effects of an oral enzyme preparation, Chymoral, upon serum proteins associated with injury (acute phase reactants) in man. *J Med*. 1974;5(5):258-73.
- o Lie KK, Larsen RD, Posch JL. Therapeutic value of oral proteolytic enzymes following hand surgery. *Arch Surg*. 1969 Jan;98(1):103-4.
- o Sumi H, Hamada H, Nakanishi K, Hiratani H. Enhancement of the fibrinolytic activity in plasma by oral administration of nattokinase. *Acta Haematol*. 1990;84(3):139-43.
- o Hale LP, Chichlowski M, Trinh CT, Greer PK. Dietary supplementation with fresh pineapple juice decreases inflammation and colonic neoplasia in IL-10-deficient mice with colitis. *Inflamm Bowel Dis*. 2010 Dec;16(12):2012-21. doi: 10.1002/ibd.21320.
- o Gomes FS, Spinola Cde V, Ribeiro HA, Lopes MT, Cassali GD, Salas CE. Wound-healing activity of a proteolytic fraction from *Carica candamarcensis* on experimentally induced burn. *Burns*. 2010 Mar;36(2):277-83. doi: 10.1016/j.burns.2009.04.007.

PAPAIN

Papain is extracted from the papaya fruit and has powerful digestive qualities, reduces bloating, is a diuretic and reduces inflammation. Has been used in the treatment and prevention of Atherosclerosis, Diabetic Heart Disease, Inflammatory Bowel Disease, and Ulcerative Colitis

- o <http://umm.edu/health/medical/altmed/treatment/ayurveda>
- o Desser L, Zavadova E, Herbage I. Oral enzymes as additive cancer therapy. *International Journal of Immunotherapy*. 2001. vol.17, no.2-3-4, pp. 153-161 (111 ref.).
- o Desser L, Holomanova D, Zavadova E, Pavelka K, Mohr T, Herbage I. Oral therapy with proteolytic enzymes decreases excessive TGF-beta levels in human blood. *Cancer Chemother Pharmacol*. 2001 Jul;47 Suppl:S10-5.

BROMELAIN

Bromelain is used to treat various ailments and disease such as arthritis, allergies, cancer, digestion and aid in the recovery from surgery.

- o Therapeutic efficacy of bromelain in impacted third molar surgery: A randomized controlled clinical study. *Ordesi P, et al. Quintessence Int*. 2014 Jul 10.
- o Pillai K, et al. Anticancer effect of bromelain with and without cisplatin or 5-FU on malignant peritoneal mesothelioma cells. *Anticancer Drugs*. 2014 Feb;25(2):150-60.
- o Büttner L, et al. Efficacy and tolerability of bromelain in patients with chronic rhinosinuitis—a pilot study. *B-ENT*. 2013;9(3):217-25.
- o Conrozier T, et al. A complex of three natural anti-inflammatory agents provides relief of osteoarthritis pain.

Altern Ther Health Med. 2014 Winter;20 Suppl 1:32-7.

- o Báez R, et al. In vivo antitumoral activity of stem pineapple (*Ananas comosus*) bromelain. *Planta Med*. 2007 Oct;73(13):1377-83.
- o Secor ER Jr, et al. Bromelain Inhibits Allergic Sensitization and Murine Asthma via Modulation of Dendritic Cells. *Evid Based Complement Alternat Med*. 2013;2013:702196.

Invertase

- Invertase is a carbohydrate-digesting enzyme that splits sucrose (common table sugar) into its component parts, glucose and fructose. It's known as a natural immune booster and used in the treatment of ulcers, cancer and respiratory issues.
- o Hubert Schiweck, Margaret Clarke, Gunter Pollach. *Sugar*. Ullmann's Encyclopedia of Industrial Chemistry. 2007 April 15. DOI: 10.1002/14356007.a25_345.pub2.
- o Kelly Joyce Neff. The healing power of honey: from burns to weak bones, raw honey can help. *Natural News*. 2007 January 26.
- o N. Benkeblia, N. Yoshida, Y. Ooi, T. Nagamine, S. Onodera, N. Shiomi. Variations of carbohydrate content and invertase activity in green and white asparagus spears- effects of spear length and portion. *Acta Hort. (ISHS)* 776:459-464.
- o Dale Kiefer. Promoting optimal nutrition with digestive enzymes. *Life Extension Magazine*. 2008. January.

LIPASE

Lipase aids in the digestion of fats (lipids) and may improve the symptoms of celiac disease (gluten intolerance), may improve nutritional status for those with cystic fibrosis, and aids in fat digestion and weight control.

- o Laugier B, Bernard JP, Berthezene P, Dupuy P. Changes in pancreatic exocrine secretion with age: pancreatic exocrine secretion does decrease in the elderly. *Digestion*. 1991;50(3-4):202-11.
- o Karani S, Kataria MS, Barber AE. A double-blind clinical trial with a digestive enzyme product. *Br J Clin Pract*. 1971 Aug;25(8):375-7.
- o Carroccio A, Iacono G, Montalto G, Cavataio F, Lorello D, Greco L, Soresi M, Notarbartolo A. Pancreatic enzyme therapy in childhood celiac disease. A double-blind prospective randomized study. *Dig Dis Sci*. 1995 Dec;40(12):2555-60.

MALTASE

Maltase breaks down carbohydrates and may act as a preventative and support mechanism for digestive complaints in autistic children.

- o Horvath K, Papadimitriou JC, Rabsztyan A, Drachenberg C, Tildon JT. Gastrointestinal abnormalities in children with autistic disorder. *J Pediatr*. 1999 Nov;135(5):559-63.
- o Treem WR, Ahsan N, Sullivan B, Rossi T, Holmes R, Fitzgerald J, Proujansky R, Hyams J. Evaluation of liquid yeast-derived sucrase enzyme replacement in patients with sucrase-isomaltase deficiency. *Gastroenterology*. 1993 Oct;105(4):1061-8.
- o David Wolfson, ND, Stephen Olmstead, MD, Dennis Meiss, PhD, Janet Ralston. Making sense of digestive enzymes (PDF). *Klaire Labs*. 2008.

GLUCOAMYLASE

Glucoamylase digests starches in a particular way that allows our bodies to absorb nutrients and create energy from some of the most common plant foods that we eat. Studies show that glucoamylase combined with other enzymes can also lower autoimmunity responses, help balance blood sugar, and may help reduce food allergies.

- o Suarez F, Levitt MD, Adsheed J, Barkin JS. Pancreatic supplements reduce symptomatic response of healthy subjects to a high fat meal. *Dig Dis Sci*. 1999 Jul;44(7):1317-21.
- o Stauder G, Ransberger K, Streichhan P, Van Schaik W, Pollinger W. The use of hydrolytic enzymes as adjuvant therapy in AIDS/ARC/LAS patients. *Biomed Pharmacother*.
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- o Dusková M, Wald M. Orally administered proteases in aesthetic surgery. *Aesthetic Plast Surg*. 1999 Jan-Feb;23(1):41-4.
- o Nichols BL, Quezada-Calvillo R, Robayo-Torres CC, Ao Z, Hamaker BR, Butte NF, Marini J, Jahoor F, Sterchi EE. Mucosal maltase-glucoamylase plays a crucial role in starch digestion and prandial glucose homeostasis of mice. *J Nutr*. 2009 Apr;139(4):684-90. doi: 10.3945/jn.108.098434. Epub 2009 Feb 4.
- o Karani S, Kataria MS, Barber AE. A double-blind clinical trial with a digestive enzyme product. *Br J Clin Pract*. 1971 Aug;25(8):375-7.
- o Zeijdner E, Havenaar R, (200). The Fate of orally administered compounds during passage through the gastrointestinal tract simulated in a dynamic in vitro model (TIM) (PDF). *European pharmaceutical Contractor, Febr. Issue: 76-81*.