

CLINICALLY RESEARCHED WOBENZYM®



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*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Douglas Laboratories® researches, develops and manufactures the right suite of rigorously designed, science-based, healthy aging supplements, and provides customized practice support. With a 60-year heritage of innovating and designing products to meet the needs of healthcare professionals, we push the potential of both clinical practices and patients to continually perform at their personal best, today and in the future.† Douglas Laboratories is both GMP and NSF International registered, and is approved to produce NSF Certified for Sport® products.

WOBENZYM®

Wobenzym® is the result of groundbreaking research conducted in New York by Austrian physician and scientist Professor Max Wolf in the late 1950s. Private physician to some of the greatest politicians and celebrities of the time, Dr. Wolf was highly regarded by his peers and spent long hours in his laboratory researching the use of his specific enzyme combinations in many different applications. He and his esteemed associate, Dr. Helen Benitez, developed a sophisticated natural enzyme formulation using plant-based enzymes bromelain (pineapple extract) and papain (papaya extract), natural pancreatic enzymes trypsin and chymotrypsin, and the antioxidant flavonoid rutin. They called it the “Wolf-Benitez-Enzymtherapie”, which inspired the brand name Wobenzym®.

WOBENZYM® | CLINICAL INDICATIONS

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Systemic Enzyme Support Protocol†8

CLINICAL ADVISOR:



Joseph J. Collins, N.D., R.N.††

The president and co-founder of Your Hormones, Inc., Dr. Collins has been directly involved in advancing the practice of natural hormone health since 1993. His functional endocrinology clinical practice focuses on adrenal health, thyroid and blood sugar function, as well as support for menopause, andropause, and PMS. He has extensive experience in the advanced use of adaptogens to support and balance hormone function. Dr. Collins has been using the Wobenzym® formulations for over 20 years. His eBook, “Systemic Enzyme Therapy—My Experience with Wobenzym® Formulations,” is based on an extensive review of the product literature and decades of clinical experience.

††Dr. Joseph Collins has been retained as a medical consultant in advising Douglas Laboratories.

WOBENZYM® AT-A-GLANCE

- #1 Joint Health pill in Germany^{†*}
- Provides temporary relief from everyday aches, pains and muscle soreness[†]
- Starts to work in as little as 7 days^{†**}
- Promotes speedy recovery following exertion^{†**}
- Emerging research indicates potential role in metabolic health[†]
- Helps balance the immune system[†]
- Speeds recovery following mild injury[†]
- Provides post-surgical support[†]

[†]German survey results, sales data, Insight Health, 2015

^{**}According to two clinical studies on ankle joint comfort

CLINICAL INDICATIONS

Made in Germany since the 1960s, Wobenzym® has been clinically researched for more than 50 years in 200+ clinical trials worldwide. Wobenzym® has been successfully utilized to support a variety of clinical objectives throughout its history.[†]

KEY PUBLISHED STUDIES

Reference	Design	# Subjects	Duration	Clinical Target [†]	Clinical Outcome [†]
Marzin et al., 2017	R, DB, placebo-controlled, two-stage trial	72	7 days	Muscle Soreness	Helped maintain strength and comfort in endurance athletes following exhaustive exercise
Ueberall et al., 2016	Meta-analysis of 6 comparator-controlled trials from 1998-2014	774	3-12 weeks	Joint Health	Assessed safety and effectiveness of Wobenzym® for increasing joint comfort using data from six clinical trials
Paradis et al., 2015	R, DB, placebo-controlled cross-over trial	24	4 weeks	Metabolic Health	Promoted markers of metabolic health
Bolten et al., 2015	R, DB, placebo-controlled, comparator trial	150	12 weeks	Joint Health (Knee)	Significantly improved joint comfort compared to placebo
Klein et al., 2006	R, DB, parallel-group (comparator)	90	6 weeks	Joint Health (Hip)	Increased joint comfort similar to comparator
Akhtar et al., 2004	R, DB, parallel-group (comparator)	103	6 weeks	Joint Health (Knee)	Increased joint comfort similar to comparator
Singer et al., 2001	R, DB, prospective	63	3 weeks	Joint Health (Knee)	Increased joint comfort (knee) similar to comparator
Klein et al., 2000	R, DB, parallel-group (comparator)	73	3 weeks	Joint Health (Knee)	Increased joint comfort (knee) similar to comparator
Rahn et al., 1995	R, DB, placebo-controlled	60	10 days	Joint Recovery	Increased joint comfort (ankle) and effected a faster return to training than comparator
Baumuller et al., 1994	R, DB, placebo-controlled	40	10 days	Joint Recovery	Increased joint comfort (ankle) and effected a faster return to training than comparator

FUNCTIONS

In the human body, hundreds of chemical reactions occur during the course of normal metabolic processes. Many chemical reactions require significant energy in order to take place and therefore need a catalyst to allow the reaction to proceed. The catalyst acts to lower the energy needed for the reaction to move forward. In the body, enzymes play the role of the catalyst and allow reactions to take place that otherwise would not occur. The enzyme itself is not consumed in this process and can be utilized again and again. Enzymes are relatively unique to each reaction and different enzymes will catalyze different reactions. Certain combinations of specific enzymes, when properly protected from stomach acid, provide systemic enzyme support. By balancing immune function in this way, systemic enzymes may help support various aspects of health, including cardiometabolic health, the lymphatic system, reproductive health, and musculoskeletal function.†

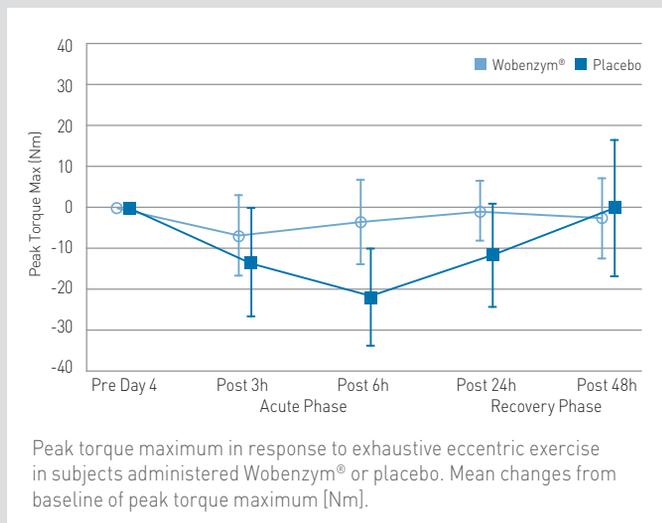
Cytokines and a Balanced Immune System with Systemic Enzymes

After the enzymes are absorbed, protease molecules can bind with molecules found within the blood, resulting in the formulation of an α -2-macroglobulin-protease complex. This newly formed complex results in a change in its affinity to bind certain cytokines. Once a cytokine is bound to the protease, the entire complex is able to be eliminated from the body. A balance between Th1 and Th2 cytokine responses is best for optimal health.†

Lorkowski G. *Int J Physiol Pathophysiol Pharmacol* 2012;4(1):10-27.

Wobenzym® is a systemic enzyme formulation containing a unique blend of enzymes from both plants and animals that have been clinically studied for supporting numerous processes in the body.† Systemic enzyme supplements work directly in the body after they are absorbed in the small intestine and are not intended to aid in digestion. Consequently, these enzymes can be utilized to assist the body’s various regulatory and communication systems.†

Wobenzym® Demonstrates Support in Maintaining Strength Following Exhaustive Exercise in Healthy Endurance Athletes†

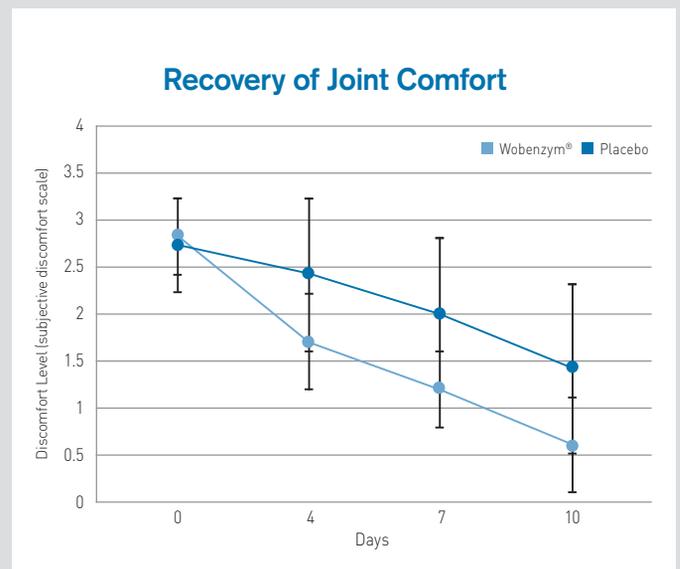
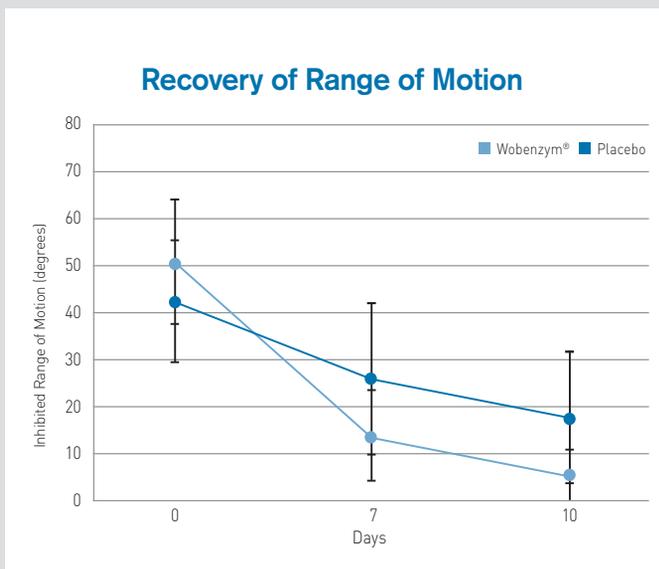
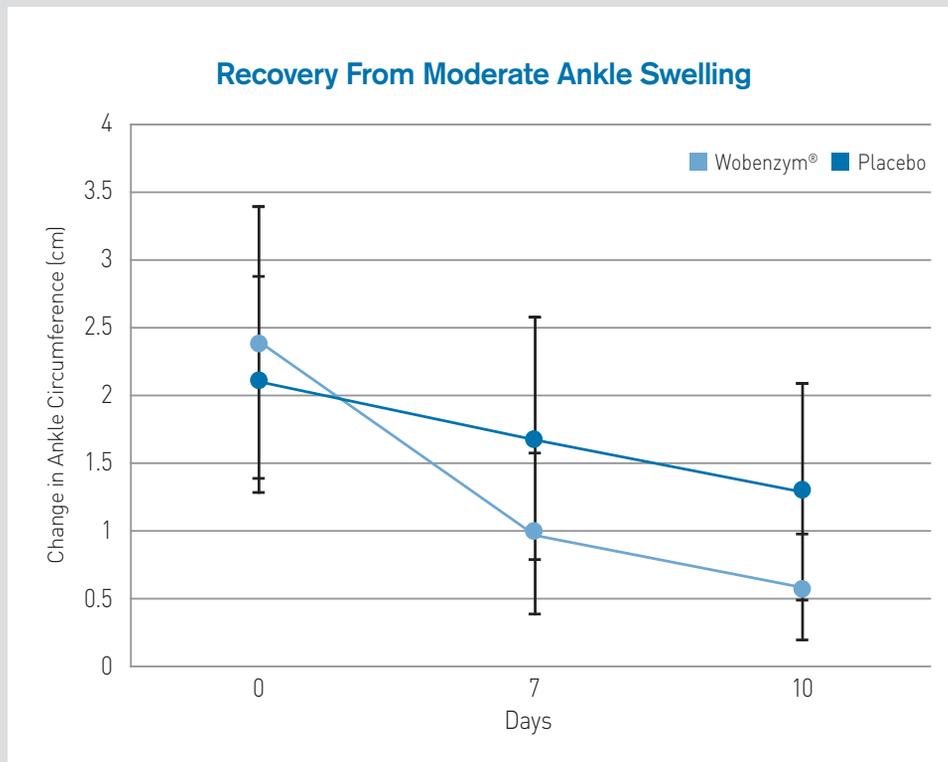


Summary Findings

- All subjects received Wobenzym® starting 72 hours before exhaustive eccentric exercise and 72 hours post exercise. This resulted in greater strength (Peak Torque Max-PTM) in subjects who were less experienced in resistance training.†
- Wobenzym® demonstrated superiority compared to placebo in maintaining strength and muscle comfort in response to exhaustive eccentric exercise (isokinetic loading of the quads).†
- Physical performance returned to baseline at 24 hours post exhaustive eccentric exercise with Wobenzym®, but not until 48 hours with placebo.†
- Biomarkers of muscle metabolism, immune response, and redox status at 3 hours after exercise demonstrated significant advantages for Wobenzym® compared with placebo.†

Marzin T, Lorkowski G, Reule C, et al. *BMJ Open Sport & Exercise Medicine* 2017;2:e000191.

WOBENZYM® FOR JOINT HEALTH†



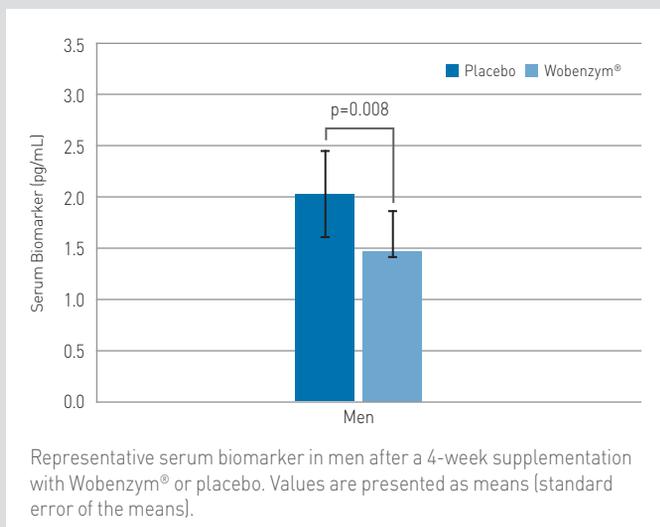
Summary Findings

- All subjects received Wobenzym® vs. placebo daily and were evaluated after 10 days for ankle comfort, mobility, swelling, and the number of days until subject was able to return to work and/or exercise training. Wobenzym® demonstrated superiority compared to placebo.†
- Subjects who received Wobenzym® experienced improvement at day 7 and were able to return to work and/or training faster than the comparator.†

Rahn HD. *Deutsche Zeitschrift für Sportmedizin* 1995;9:426-431.

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Wobenzym® Effect on Markers of Cardiometabolic Health†



Summary Findings

- Positive impact on markers of cardiometabolic health in men†
- No influence on blood lipids or gene expression
- Previous reports suggest sex-specific differences in cardiometabolic biomarkers in healthy, overweight subjects, including in premenopause; further study needed to explore differential responses observed in men and women

Paradis M-E, Couture P, Giguere I, et al. *Pharma Nutrition* 2015;3(3):85-88.

Wobenzym® Plus

Formula	Size
201910	120 Tablets
	240 Tablets
	480 Tablets

Suggested Usage: 2, twice daily, 45 minutes before a meal

Clinically researched Wobenzym® Plus is the most potent Wobenzym® formula yet. With its increased activity compared to Wobenzym® N and a convenient, 4-tablets-a-day dose, patients require fewer pills to consume than other Wobenzym® formulations. Wobenzym® Plus is offered in the form of enteric-coated tablets and provides a specific formulation of proteolytic enzymes to help maintain healthy joint function, offer temporary relief of everyday aches, pains and muscle soreness, and support fast recovery following exertion.† Wobenzym® has been made in Germany since the 1960s and has been clinically researched over the past 50+ years in over 200 clinical trials.

SUPPLEMENT FACTS

Serving Size 2 Tablets

Amount Per Serving	%DV
Bromelain [∇] (1350 FIP [∆] -units)..... 270 mg	*
(from pineapple (<i>Ananas comosus var comosus</i>) stem)	
Trypsin (4320 FIP [∆] -units)..... 144 mg	*
(from porcine (<i>Sus scrofa</i>) or bovine (<i>Bos taurus</i>) pancreas)	
Rutoside trihydrate (Rutin).....300 mg	*
(from <i>Styphnolobium japonicum</i> flower bud)	

*Daily Value (DV) not established.

[∇]From dried purified aqueous extract.

[∆]FIP is the measurement of enzyme activity according to the methods of the International Pharmaceutical Federation.

Other ingredients: Microcrystalline cellulose, calcium phosphate, hydroxypropyl cellulose, vegetable stearate, enteric coating (sodium alginate, medium chain triglycerides, ethylcellulose, stearic acid, oleic acid, purified water) and purified water.

Wobenzym® PS

Formula	Size
200870	100 Tablets 180 Tablets

Suggested Usage: 3, twice daily, 45 minutes before a meal

Wobenzym® PS contains the authentic German Phlogenzym formula used by health professionals in Europe, providing a clinically supported formulation of specific systemic enzymes to help maintain healthy joints, mobility and flexibility.† Wobenzym® PS (Professional Strength) is offered in the form of enteric-coated tablets and is available exclusively to health professionals.

SUPPLEMENT FACTS

Serving Size 3 Tablets

Amount Per Serving	%DV
Bromelain [†] 1,350 FIP-units [‡] <i>Ananas comosus</i>	270 mg *
Trypsin [†] 4,320 FIP-units (pancreas) <i>Sus scrofa/Bos taurus</i>	144 mg *
Rutoside trihydrate (Rutin) <i>Sophora japonica</i>	300 mg *

*Daily Value (DV) not established.

[†]From dried purified aqueous extracts.

[‡]FIP is the measurement of enzyme activity according to the methods of the International Pharmaceutical Federation.

Other ingredients: Microcrystalline cellulose, calcium phosphate, hydroxypropyl cellulose, vegetable-based enteric-coating, vegetable stearate, silica, natural vanilla flavor.

Wobenzym® N

Formula	Size
201213	100 Tablets 200 Tablets 400 Tablets 800 Tablets

Suggested Usage: 3, twice daily, 45 minutes before a meal

Wobenzym® N is the authentic German formula of systemic enzymes. This well-known classic enzyme preparation is designed to promote healthy joints and muscles, as well as systemic processes that contribute to the healthy aging process.†

SUPPLEMENT FACTS

Serving Size 3 Tablets

Amount Per Serving	%DV
Pancreatin [†] 56,000 USP units protease	300 mg *
(pancreas) <i>Sus scrofa</i>	
Papain [†] 492 FIP-units [‡] <i>Carica papaya</i>	180 mg *
Bromelain [†] 675 FIP-units <i>Ananas comosus</i>	135 mg *
Trypsin [†] 2,160 FIP-units (pancreas)	72 mg *
<i>Sus scrofa</i> and/or <i>Bos taurus</i>	
Chymotrypsin [†] 900 FIP-units (pancreas) <i>Bos taurus</i>	3 mg *
Rutoside trihydrate [†] (Rutin) <i>Sophora japonica</i>	150 mg *

*Daily Value (DV) not established.

[†]From dried purified aqueous extracts.

[‡]FIP is the measurement of enzyme activity according to the methods of the International Pharmaceutical Federation.

Other ingredients: Cellulose, vegetable-based enteric coating, vegetable stearate, natural vanilla flavor, purified water.

WOBENZYM® COMPARISONS

Ingredients	Wobenzym® Plus Dose per 2 Tablets	Wobenzym® PS Dose per 3 Tablets	Wobenzym® N Dose per 3 Tablets
Pancreatin	none	none	300 mg
Papain	none	none	180 mg
Bromelain	270 mg	270 mg	135 mg
Rutin	300 mg	300 mg	150 mg
Trypsin	144 mg	144 mg	72 mg
Chymotrypsin	none	none	3 mg
Pill Description	Round tablet slightly larger than PS/N	Small round tablet	Small round tablet
Daily Dose	4 tablets	6 tablets	6 tablets
Attributes†	Convenient dose / Active lifestyle	Higher potency / Acute use	General wellness / Broad-spectrum long-term use

†These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

[Developed by Joseph J. Collins, N.D., R.N.]

Protocol Objectives:

This protocol aims to identify typical indications of use and recommend dosing of systemic enzyme support to guide healthcare practitioners. Wobenzym[®] systemic enzyme products are supported by over 200 clinical trials and a history of 50 years of safe and effective use. Based on clinical studies and on practitioner experience, Wobenzym[®] has been successfully utilized to support a variety of clinical objectives throughout its history.[†]

Formulation	Label Dose	Optional Loading Dose ^{***}	Attributes [†]
Wobenzym [®] PS	3 tablets, twice daily	12 tablets daily	Higher potency / Acute use
Wobenzym [®] Plus	2 tablets, twice daily	8 tablets daily	Convenient dose / Active lifestyle
Wobenzym [®] N	3 tablets, twice daily	12-15 tablets daily	General wellness / Broad-spectrum long-term use

All Wobenzym[®] formulations should be taken at least 45 minutes before meals with water.

^{***}Optional loading dose is based on international literature and clinical experience; intended for use under the supervision of a healthcare practitioner.

Clinical Objective [†]	Support Functions [†]	Formulation(s)	References
Joint Health	<ul style="list-style-type: none"> Supports healthy joints, mobility, and flexibility Provides temporary relief of everyday aches, pains, and muscle soreness Speeds recovery following exertion 	Wobenzym[®] PS Wobenzym[®] Plus Wobenzym[®] N	1, 2, 3, 4, 5, 6, 7, 8, 9
Post-Surgical Support	<ul style="list-style-type: none"> Provides post-surgical comfort and recovery Relieves minor swelling Promotes range of motion following surgery 	Wobenzym[®] PS Wobenzym[®] Plus	10, 11, 12
Post-Injury Support	<ul style="list-style-type: none"> Promotes flexibility and range of motion following mild injury Speeds recovery following mild injury 	Wobenzym[®] PS Wobenzym[®] Plus	4, 13, 14
Cardiometabolic and Vascular Health	<ul style="list-style-type: none"> Promotes healthy fibrolytic and platelet activity Helps maintain healthy glucose metabolism Supports healthy cardiometabolic biomarkers 	Wobenzym[®] PS Wobenzym[®] Plus	15, 16, 17
Gynecological Health	<ul style="list-style-type: none"> Maintains gynecological comfort and health of gynecological tissues Promotes genitourinary health Supports reproductive health 	Wobenzym[®] N	18, 19
Breast Health	<ul style="list-style-type: none"> Supports healthy breast tissue Helps maintain breast comfort 	Wobenzym[®] N	20, 21
Lymphatic Health	<ul style="list-style-type: none"> Promotes lymphatic drainage Supports healthy tissue fluid levels 	Wobenzym[®] N	22
Thyroid Health	<ul style="list-style-type: none"> Supports tissue function Maintains thyroid tissue health 	Wobenzym[®] N	23
Urinary Tract Health	<ul style="list-style-type: none"> Supports urinary tract comfort and function Helps maintain healthy urinary tract environment 	Wobenzym[®] N	24, 25

Please note that the patient does not require all supplements listed.

This protocol is intended for use by healthcare practitioners, is for informational purposes only, and does not establish a doctor-patient relationship. Please be sure to consult your physician before taking this or any other product. Consult your physician for any health problems.

Available for download at www.douglaslabs.com/SystemicEnzymeSupportProtocol

References:

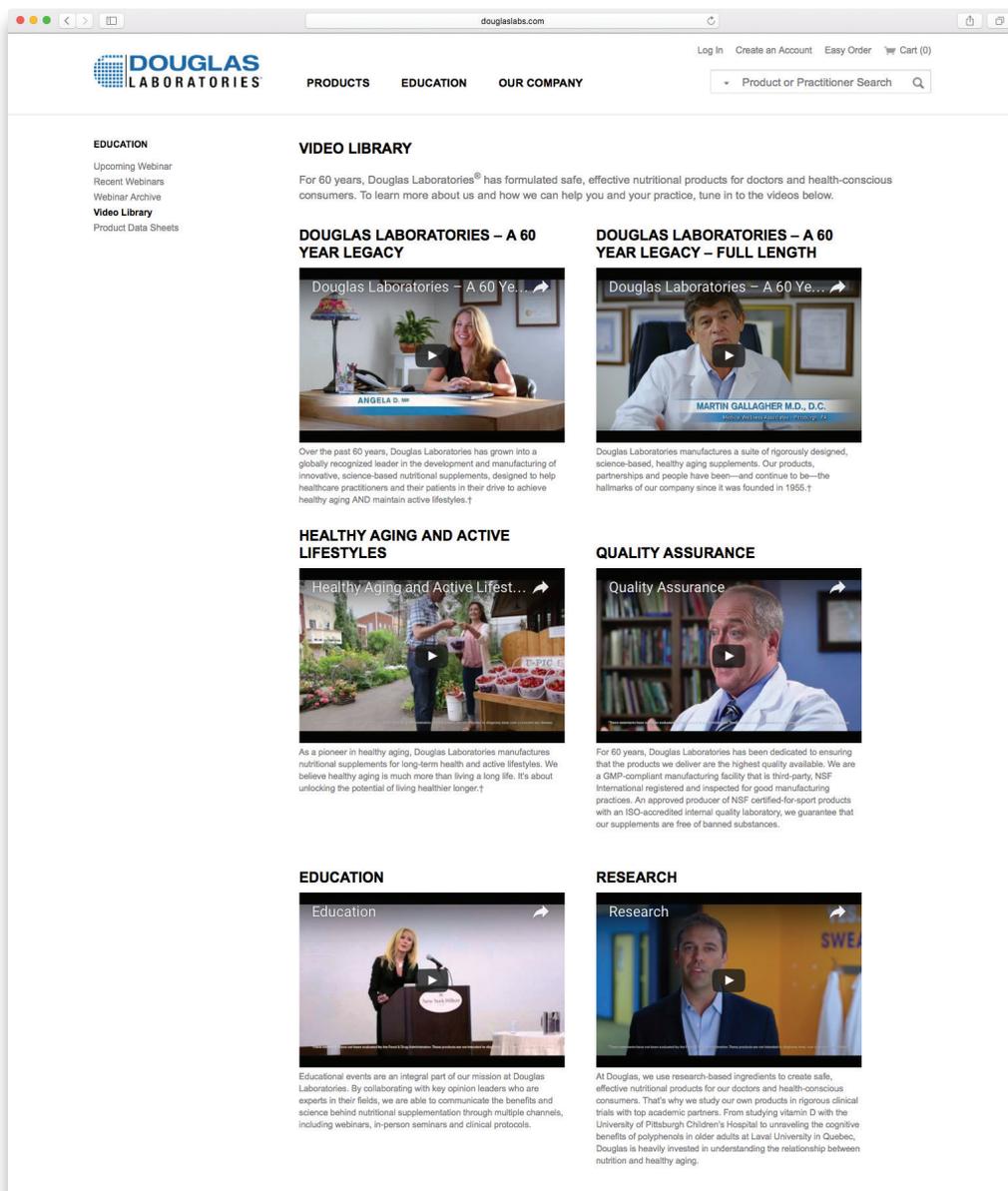
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EDUCATION

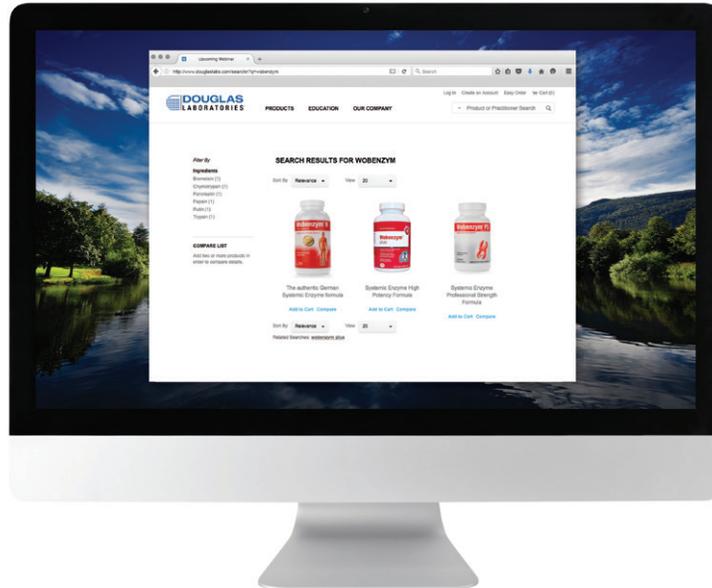
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