

Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

## **Thorne Research Inc.**

Thorne Research is a personalized health solutions company dedicated to improving individual outcomes through science and technology. Based on an at-home test, Thorne provides customers with insights about their health along with recommendations on how to eat, exercise, and what supplements to take. The company is committed to providing scientifically-backed natural solutions for the most unique and complex health and wellness issues and as a result, their dietary supplements are recognized by health care practitioners around the world as being the finest, purest, highest quality dietary supplements available. Recently, they have also become more involved in bioinformatics by creating a new Consumer Health Intelligence company and launching an AI wellness platform. Overall, their mission is to empower individuals to seek better health by provide them with actionable insight on their health through personalized health research, molecular diagnostics, and intelligent digital analytics.

### **Company Details**

- Thorne Research Inc. is a private American biotech and pharma company that manufactures clinically proven, high quality natural products
  - Includes foundational vitamins and minerals, therapeutic focused nutritional supplements
  - They have a wide range of products that aim towards improving a multitude of health concerns
  - They create veterinary supplements as well
- Thorne Research is a majority shareholder in WellnessFX – a San Francisco-based personalized wellness company that provides home kit testing and actionable recommendations from the analysis of blood chemistry, genetics, and microbiome (<https://www.wellnessfx.com>)
  - In 2013, Thorne acquired WellnessFC through its subsidiary Health Elements (details of the deal were not disclosed)
  - Thorne leverages personalized data through affiliate WellnessFX to offer customized preventative health solutions for practitioners and patients
- Founded in 1984 – founders were committed to owning every step of the manufacturing process to create the perfect product
- Estimated Annual Revenue: Approx. \$10 billion
- Estimated Employees: 250-500
- Headquarter: New York City
- Manufacturing Facility: Sandpoint, Idaho
- Management
  - CEO: Paul Jacobson
    - 70-80% approval rating on sites such as Owlser and Glassdoor
  - COO: Tom McKenna

Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

- President: William McCamy
- CTO: Scott Hurth
- CFO: Scott Wheeler
- Chief Marketing Officer : Michelle Crow
- Chief Science Officer: Body Zhang
- Chief Business Development Officer: Vin Ferrara
- Board members include:
  - Robert P. Forlenza – Founding Partner and Managing Partner of Spring Lake Equity Management LLC
  - Jeff Williams –Founding Partner of Spring Lake Equity Management LLC
- Top competitors: Designs for Health, Ortho Molecular Products, XYMOGEN
- Website: <https://www.thorne.com>
- Thorne Research Inc. also has a Youtube page where they upload short and easy-to-understand video clips about their products
  - <https://www.youtube.com/channel/UCaDgqa4VU8TECqIPq6C3LtA/videos>

### **About the Company**

- Thorne invests 5% of sales back into R&D, quality assurance and quality control
- Thorne manufactures their own products to ensure full supply chain transparency
  - Their manufacturing facility, warehouses, and shipping centers are regularly inspected and are in compliance with the Current Good Manufacturing Practices (cGMP) set by the FDA
- They are the first U.S. nutritional supplement company to be fully certified by Australia's Therapeutic Goods Administration (recognized as the toughest regulatory agency in the world)
- They also have an NSF Certified facility and manufactures more than 30 NSF Certified for Sport products
  - As a result, they are partnered with 12 U.S. National Teams as their exclusive provider of nutritional supplements
- They have 2 in-house laboratories where they conduct 4 rounds of testing
  - Round 1: raw materials and components are tested and screened for contaminants
  - Round 2: Every in-process batch is tested for homogeneity and identity to confirm consistency
  - Round 3: Finished products are tested to ensure that its identity, potency, and purity have been maintained and that there has been no microbiological contamination during manufacturing
  - Round 4: Test for product stability to confirm that they meet the label claim up to the product's time expiration
- The company believes strongly in environmental sustainability and takes steps to lighten their environmental impact by discontinuing the use of botanical ingredients that are becoming endangered and using recycled materials for shipping supplies

Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

## Tests

1. At-home test that help customers uncover insights about their health
  - Based on test results, the company creates an individualized plan with suggestions on how to eat, exercise, and what supplements to take
    - Health recommendations and plans are generated from Thorne's medically-supervised algorithms based on each customer's body metrics, lifestyle, biomarker results, and decades of medical literature
  - Test results include a simple visualization of a customer's biomarkers as well as detailed descriptions of each biomarker
  - Insights on a customer's health point out potential health risks or areas of improvement
  - How to complete a test:
    - Step 1: customers purchase a test, which then gets delivered to their doorstep
    - Step 2: the customer is to collect saliva samples at home and use the free return envelope to mail their sample into the lab
      - Thorne only partners with labs that have obtained both federal and state certification to accept human samples for diagnostic testing
      - This information is then reviewed by a board-certified physician that is part of Thorne's physician network partnership
    - Step 3: within 9-10 days, customers can review their results and recommendations on a desktop or mobile device

## Their Products

- Thorne is dedicated to doing comprehensive testing, sourcing the highest quality ingredients, creating a clean manufacturing process, and protecting the environment
- The company has a list of ingredients that they do not include in their products such as Aspartame, Eggs, Gluten, Glycols, Petrolatum, Sucralose etc.
  - These include ingredients that do not have the necessary potency, ingredients that contain any contaminants, ingredients that do not meet their stability testing standards,
    - Includes fillers, additives, and allergens
  - They refuse to use magnesium stearate or any other ingredient that can inhibit absorption
- Thorne offers online tools that allow health practitioners to sell and dispense supplements online without the hassle of an onsite inventory
  - Health practitioners can create an online dispensary, upload their patient list, recommend supplements, track orders, send reminders, and create custom patient protocols for diet and exercise
  - <https://www.youtube.com/watch?v=7hR88Q4twZw&feature=youtu.be>
- A quick look at website such as <https://ca.iherb.com/c/thorne-research> that sell Thorne products show high ratings and customer satisfaction
- Thorne Research states that their products are a result of extensive clinical research and medical literature that substantiate the presence of each ingredient in each formula

Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

- Collaborations with independent researchers help Thorne scientifically confirm the efficacy and safety of their products and explore new potentials for them
- At any given time, numerous Thorne nutritional products are being tested in clinical trials taking place around the world
- Their products are made available through licensed health care practitioners and at select independent pharmacies and other distribution outlets
- 

### **Strategic Collaborations**

- Thorne entered into a Master Clinical Study Agreement with Mayo Clinic in August 2014 to conduct a series of randomized double-blind placebo-controlled clinical trials on a number of nutritional supplements
- In 2016 they participated in a study with Mayo Clinic and the University of Minnesota Clinical and Translational Science Institute concerning the effect of Nicotinamide Riboside on brain NAD+ in football players
- In July 2013, Thorne formed a strategic partnership with ChromaDex to develop and commercialize ground-breaking natural products
  - This collaboration resulted in the commercialization of pterostilbene and Niagen® marketed by Thorne as NiaCel®
- Thorne partners with Invictus Fitness by collaborating on educational initiatives, administering health testing for a gym's location's elite athletes, and by providing supplements
- Since 2012, Thorne has teamed with Helsinn HealthCare SA to provide the best possible quality of life for individuals whose lives are impacted by cancer
- In October 2011, Thorne entered a collaboration with Indena that has resulted in the development of 40 new botanical products – many that are only available from Thorne
- Other research organizations that Thorne works with includes:
  - Cleveland Clinic
  - Columbia University
  - Emory
  - Johns Hopkins University
  - University of Texas MD Anderson Cancer Center

### **Recent News**

Ontario-based Tetra Bio-Pharma Announces Joint Venture with Thorne and Onegevity Health to Form CB2 Therapeutics- August 21, 2019

<http://www.globenewswire.com/news-release/2019/08/21/1904711/0/en/Tetra-Bio-Pharma-Announces-Joint-Venture-with-Thorne-and-Onegevity-Health-to-Form-CB2-Therapeutics.html>

- Tetra Bio-Pharma Inc., (a leader in drug discovery and development for cannabinoid-based therapeutics) announced that they signed an agreement with Thorne Research Inc. and Onegevity Health LLC to form a joint venture – CB2 Therapeutics Inc.
- CB2 Therapeutics Inc. will focus on leveraging the power of the endocannabinoid system to become a leader in the management of chronic inflammatory conditions

Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

- They will focus on developing compounds for chronic inflammatory conditions with high unmet needs or that are poorly served with existing therapies
- Under the terms of the agreement, all parties grant the joint venture an exclusive, fully-paid royalty-free license to use their respective intellectual property for global product development and commercialization
- CB2 Therapeutics aims to launch a dietary supplement to support those who have functional bladder inflammation leading to urinary frequency and urgency in 2020
- The joint venture is targeting an initial raise of US \$10,000,000 to commence its phase 2 clinical trials for irritable bowel syndrome and the commercialization of its dietary supplements for interstitial cystitis

Team Penske and Thorne Announce Multi-Year Partnership – June 11, 2019

<https://www.thorne.com/press-releases/team-penske-and-thorne-announce-multi-year-partnership>

- Team Penske announced a new marketing partnership with Thorne, naming the company as the “Official Performance Partner”
- Thorne’s line of key professional and NSF Certified for Sport products will be integrated into supplement plans created by Team Penske for their pit crews in NASCAR, INDYCAR, and IMSA
- Team Penske states that Thorne is an industry leader whose reputation for quality and safety in their nutritional supplements is unmatched

UFC Names Thorne Official Sports Performance Nutrition Partner – June 11, 2019

<https://www.thorne.com/press-releases/ufc-names-thorne-official-sports-performance-nutrition-partner>

- Team Penske announced a new marketing partnership with Thorne, naming the company as the “Official Performance Partner”

Official Launch of Onegevity Health as a New Consumer Health Intelligence Company – January 15, 2019

<https://www.thorne.com/press-releases/onegevity>

- Onegevity is a NY based, consumer health intelligence company that was founded by Drs. Joel Dudley and Chris Mason, along with Thorne CEO Paul Jacobson
- <https://www.onegevityhealth.com>
- The company combines a multi-omic AI platform with consumer-friendly products and digital services
- The goal of the company is to deliver science-based, consumer friendly recommendations for customized nutrition, supplements, and pre- and pro-biotics to improve health outcomes
  - Provide consumers with comprehensive molecular portrait and customized recommendations for an individual’s health based on integrated analysis of longitudinal blood, genetics, and gut microbiome profiles

Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

- Onegevity Health Intelligence is their proprietary platform that uses AI and machine learning to map, integrate, and understand the billions of dynamics biological features that describe the state of one's health
  - This platform transforms complex health data into actionable information so consumers can optimize their health and wellness
  - Complex data analytics produce an array of patterns from data and this AI system interprets the findings and identifies biological meaning to the patterns
- The company's first product, GutBio combines its advanced Metagenome sequencing technology with AI-based personalized insights and recommendations to help individuals manage and improve gut health
- Onegevity plans to expand services later this year to include whole-genome sequencing and blood testing plus personalized products and services for skin health, cognition heart health, and sports performance
- They are also working exclusively with partner company Drawbridge Health in the development of the OneDraw™ blood sampling system that would allow for a convenient and nearly painless blood testing experience
- Their mission is to use molecular diagnostics and intelligent digital analytics to develop personalized and highly actionable plans towards chosen health goals
- They claim their model is that they only profit when they help customers achieve better health, and that this puts them apart from other companies that profit off the back of their customers by making deals on customer data
  - They also state that if they find opportunities to profit from data, they will be transparent with their customers and split the economics in a way that also rewards the customer
- Collaborators: Drawbridge Health, Mitsui Co, Ltd., Kirin Holding Inc., gencove, Thorne, and Worldquant

Thorne and Scientific Pioneers Drs. Joel Dudley and Chris Mason Partner to Form Pillar Health – January 4, 2018

<https://www.thorne.com/press-releases/thorne-partners-with-pillar-health>

- Thorne and Drs. Joel Dudley and Chris Mason announced the launch of Pillar Health – a revolutionary AI wellness platform that will provide an integrated molecular portrait and optimized actions for an individual's health
- [https://twitter.com/pillar\\_health?lang=en](https://twitter.com/pillar_health?lang=en)
- Thanks to an investment from Thorne, Pillar will leverage longitudinal sampling and in-depth measures of a person's blood, genome, microbiome, metabolites, and environment to reveal altered or missing molecular components needed to boost wellness
  - These components of "precision wellness" are then prioritized, customized, and ordered online for each individual
  - They will allow consumers and patients to opt-in or out of data-sharing arrangements

Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

- Pillar will launch with millions of early-access customers through Throne's customer base of practitioners, elite athletes, and consumers, as well as the corporate wellness customer network of WellnessFX
- Pillar will work with NYC labs to provide genetic, microbiome, and metabolite tests, as well as new molecular measures of aging and skin health
  - They will also be leveraging Throne's recent partnership with Drawbridge Health for their expertise in novel blood sampling technologies
- This company is the result of a strong belief that there is an internet-scale opportunity to put precision health technologies into the hands of consumers to give rise to a new industry and era of science-based precision wellness
- CEO of Thorne, Paul Jacobson states that their companies, Thorne, WellnessFX, and Pillar will integrate all health information and deliver it onto a single platform for actionable solutions

Mitsui & Co., Ltd. and Kirin Holdings Company, Limited to Jointly Invest in Throne Research in the U.S. – July 9, 2018

[https://www.mitsui.com/jp/en/release/2018/1226586\\_11215.html](https://www.mitsui.com/jp/en/release/2018/1226586_11215.html)

- Mitsui and Kirin will subscribe to approximately 80% (roughly 40% for each company) of the shares of the holding company of Thorne Research, Inc. through a third-party allotment of newly issued shares
  - Closing of the deal: October 2018
- Mitsui has identified Nutrition & Agriculture as a new growth area for themselves
  - In the human nutrition field, they are developing a business model which helps consumers obtain health insight and live a healthier life by providing a personalized solution
  - This aligns with Throne Research's business model
  - Mitsui has also been in an investment partnership with Thorne since December of 2017t
- Kirin's reasoning for this move is that in its "New Kirin Group Vision 2021" they state that they aim to "Co-achieve sustainable growth with our societies by realizing value creation, addressing social issues and understanding consumer expectation via the core business of the Kirin group"
  - In June, Kirin CEO Yoshinori Isozaki hinted at potentially acquiring or forming joint ventures with smaller research firms to boost its pharmaceutical business
- This joint investment will help both companies strengthen their initiatives in the field of global preventive health management and wellness
- The companies also plan to enhance the corporate value of Throne's U.S. business and further expand Thorne's business into other markets, such as Japan, through joint cooperation
- Thorne CEO Jacobson has also stated that they plan on entering the beverage market by looking for new functional beverage opportunities



Mayu Takagi  
1602-111 St. Clair Ave W  
Toronto, ON  
M4V 1N5

→ announcement from Thorne about this investment <https://www.thorne.com/press-releases/mitsui-and-kirin-make-strategic-investment-in-thorne>

- On August 2, 2018, Thorne announced that it has entered into an agreement or a joint strategic investment with Mitsui and Kirin.
- This strategic investment will be used to help expand Thorne's personalized health technology platform and product and to jointly grow their business in Asia
- This follows Mitsui's investment in Thorne last year
- Mitsui and Kirin now join Helsinn and Thorne's management team as investors, replacing the private equity firms WestView Capital Partners and Tudor Venture (now operating as Spring Lake Equity) as shareholders of Thorne
- This announcement follows Thorne's strategy to expand into a health and technology company, specializing in personalized consumer health
  - Earlier in the year, the company introduced 5 at-home health tests and invested and partnered with Drawbridge Health (the company believed to become the leader in convenient blood collection in both group and at-home settings pending FDA-clearance)
  - Thorne also invested and co-founded a company with Drs. Joel Dudley and Chris Mason to build a machine-learning based company targeting actionable analytics and products for prevention and wellness