

# THORNE RESEARCH

## 30 Years Ensuring Quality and Purity Via Ingredient Sourcing, Testing, and Verification

ALL OF OUR RAW INGREDIENT SUPPLIERS ARE QUALIFIED TO MEET PURITY STANDARDS

1,900+ RAW INGREDIENTS TESTED ANNUALLY



### WHY INGREDIENT SOURCING MATTERS

The SUPPLEMENT FACTS box doesn't always tell the whole story

#### Thorne Research

Supplement Facts	
Serving Size: Two Capsules	
Two Capsules Contain:	
	%DV
Pure Ascorbic Acid	60 mg 100%
Pure Vitamin D	400 IU 100%
Pure natural d-alpha-Tocopheryl	30 IU 100%
Pure Vitamin K	80 mcg 100%
Pure Riboflavin	1.7 mg 100%
Pure Vitamin B12 as Methylcobalamin	6 mcg 100%
Pure Biotin	300 mcg 100%
Pure, undiluted Pepsin	300 mg
Pure, undiluted Pancreatin	1,000 mg
Pure, undiluted Bromelain	18 mg
Pure, undiluted Papain	18 mg
* Daily Value (DV) not established	
Vegetarian capsule	Other Ingredients: Hypromellose (derived from cellulose) capsule.

#### Other Manufacturer

Supplement Facts	
Serving Size: Two Capsules	
Two Capsules Contain:	
	%DV
90% Ascorbic Acid, with 10% Corn Starch and Lactose	Vitamin C 60 mg 100%
0.1% Vitamin D dilution in a base of Dicalcium Phosphate, Lactose, Acacia, BHF, Sodium Benzoate, and Sorbic Acid	Vitamin D 400 IU 100%
50% di-alpha Tocopherol dilution in a base of hydrogenized protein, Sorbic Acid, and Sodium Benzoate	Vitamin E 30 IU 100%
1% Vitamin K dilution in a base of Lactose	Vitamin K 80 mcg 100%
33% Riboflavin, with Mono- and Diglycerides of Fatty Acids surrounding each particle for better flow and flavor masking	Riboflavin 1.7 mg 100%
Cyanocobalamin (0.1% B-12 dilution in a base of Corn Starch with Sodium Benzoate and Sorbic Acid)	Vitamin B12 6 mcg 100%
1% Biotin diluted on a base of Dicalcium Phosphate, Lactose, Sodium Benzoate, and Sorbic Acid	Biotin 300 mcg 100%
Pepsin, standardized with Lactose	Pepsin 300 mg
Pancreatin, standardized with Lactose	Pancreatin 1,000 mg
Bromelain, standardized with Lactose	Bromelain 18 mg
Papain, standardized with Lactose	Papain 18 mg
* Daily Value (DV) not established	
Other Ingredients: Gelatin capsule.	

### 1 RAW INGREDIENT QUALITY TESTING

We only trust ingredients based on scientific proof/validation. In-house lab upholds quality control standards to maintain manufacturing excellence.



38 QA/QC PERSONNEL ON STAFF

10 State-of-the-art Testing Technologies \$1.7 M Investment

#### IDENTITY TESTING



- Verify identity of ingredient (Is the Certificate of Analysis from raw material supplier correct?)
- Verify Potency
- Verify Purity

#### CONTAMINANT TESTING



- Yeasts and Molds
- Coliform Bacteria
- Other Pathogenic Organisms
- Moisture Content



- Pesticide Residue
- PCBs and Dioxins
- Heavy Metals (arsenic, lead, cadmium, mercury)
- Residual Solvents

#### ADVANCED LABORATORY TECHNOLOGIES USED

Inductively Coupled Plasma Optical Emissions Spectrometer  
- tests mineral concentration

Near-Infrared Spectrometers  
- tests ingredient identity

Ultra High Performance Liquid Chromatograph with UV-Vis and Mass detectors  
- tests ingredients for vitamin and amino acid content

High Pressure Liquid Chromatographs  
- determines potency and vitamin content

Pharmaceutical Grade Microbiology Lab  
- tests for presence of pathogens

Karl Fischer Titrator and Moisture Balance  
- tests for moisture content

Additional Lab Capabilities  
- tests for pH and dissolution

Inductively Coupled Plasma Mass Spectrometer (ICP-MS)  
- tests for heavy metals at very low levels (parts per billion or less)

Direct Sample Analysis Time-of-Flight Mass Spectrometer  
- tests for pesticides, solvent residues, PCBs, dioxins, and PAHs

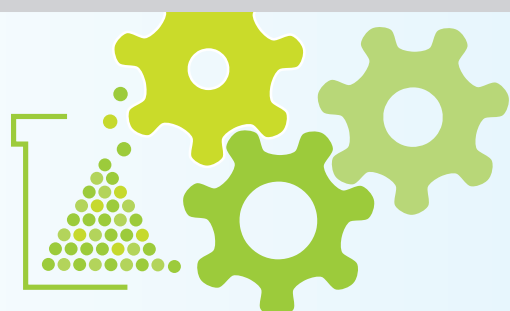
650 samples per month

WHAT WE TEST FOR

PASS

RAW MATERIAL > MIXING/DISPENSING

500+ Total Formulations



2

In-process Quality Testing



PASS

FORMULA > ENCAPSULATION/BATCH PROCESSING

**NO** binders, coatings, disintegrants, or fillers or lubricants (including magnesium stearate) that might impair nutrient absorption



3

In-process Quality Inspection



PASS

ENCAPSULATION/BATCH > PACKAGING/LABELING



470 FINISHED PRODUCTS PER MONTH

4

Final Quality Testing

STABILITY PROGRAM



PASS

3 MILLION Nutritional supplement products delivered to practitioners and their patients



### CERTIFICATIONS



Thorne Research is one of the first nutritional supplement companies in the practitioner channel to begin obtaining non-GMO verification from the prestigious NON-GMO Project.



Thorne Therapeutics (Thorne Research's skin-care division) is the only USDA organic certified skin-care line globally.



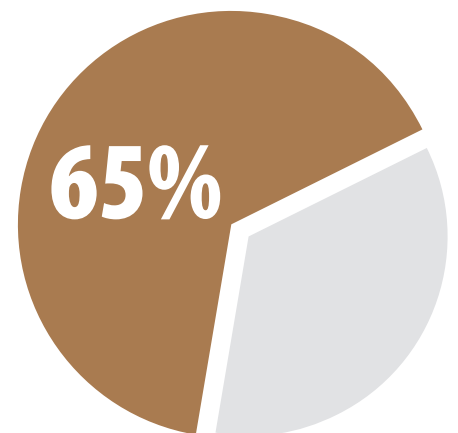
NSF is the one of the most internationally respected independent certification organizations. Certification for general GMP and for sport and skin-care facility audits is planned for 2015.

### COMPLIANCE

#### U.S. Food and Drug Administration (FDA)

Thorne Research complies with all FDA regulations regarding nutritional supplement manufacturing.

In 2013, 65 percent of dietary supplement companies inspected by the FDA were cited for regulatory violations.\*



Almost 80 percent of the GMP violations were related to records, complaints, holding and distribution, equipment, and facility.\*

\*Source: Natural Products Insider 2014

#### Australian Government Therapeutic Goods Administration (TGA)

Thorne Research is one of the first U.S. supplement manufacturers to receive an A1 rating for GMP compliance by the Australian Therapeutic Goods Administration.



## THORNE RESEARCH

Pure Ingredients, Trusted Results, Worldwide™