

# TURNIP GREENS



## Turnip Greens

Turnip greens come from the leaves of root vegetable *Brassica rapa* subsp. *rapa* and are a particularly rich source of vitamins K, A, and C as well as plant form folate and phytoactive compound lutein. The dry leaves from turnips are also a rich source of glucosinolates and the activating enzyme myrosinase. Eating turnip greens and other vegetables improves your food quality score (FQS).



## Phytoactives

### Chlorophyll

Green pigment in plants with potential anti-inflammatory, antioxidant, and anti-bacterial activity

### Myrosinase

Enzyme found in plant tissue that initiates conversion of glucosinolates to bioactive isothiocyanates

### Glucosinolates

Sulfur-containing secondary metabolites mostly found in cruciferous vegetables, when activated by myrosinase from the plant or after ingestion by gut bacteria, associated with positive effects stemming from antioxidant activity such as cardio-protection and detoxification support

**Other Glucosinolates** (4.12 mg/g)\*\*

**Neoglucobrassicin** (1.74mg/g)\*\*

**Glucoraphasatin** (1.2 mg/g)\*\*

**Glucobrassicinapin** (1.06 mg/g)\*\*

### Carotenoids

Antioxidants with anti-cancer potential and may lower risk of macular degeneration

**Lutein** (286 mcg/g)\*\*

**Zeaxanthin** (30 mcg/g)\*\*

### Flavonols

Promote antioxidant activity and promote vascular health

**Kaempferol** (31.7 mcg/g)\*

**Quercetin** (4.9 mcg/g)\*

### Phenolic Acids

Phytoactive compounds that promote antioxidant activity and promote vascular health

**Caffeic Acid** (29.5 mcg/g)\*

**Ferulic Acid** (6.0 mcg/g)\*

**Gallic Acid** (23.1 mcg/g)\*

**Protocatechuic Acid** (6.0 mcg/g)\*

### Carotenoids

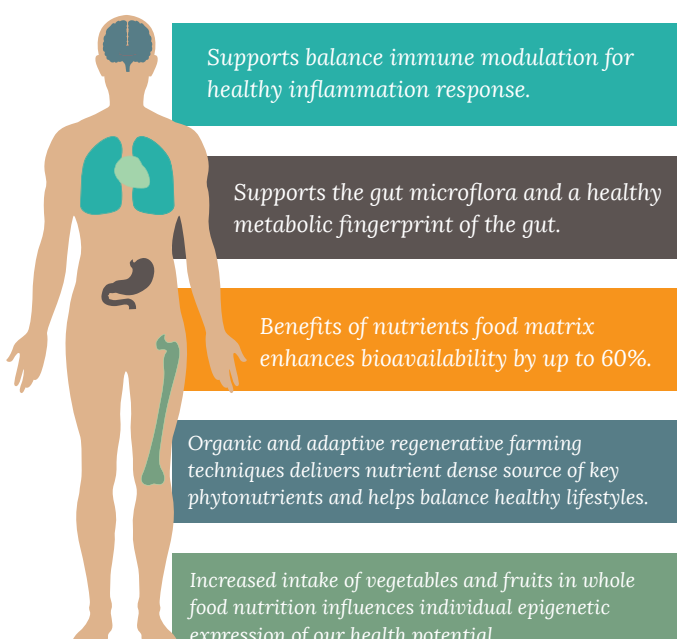
Antioxidants with anti-cancer potential and may lower risk of macular degeneration

**Beta Carotene** (220.8 mcg/g)\*\*

### Ellagic Acid

Potent antioxidant compound with anti-cancer potential

## What is the Whole Food Matrix?





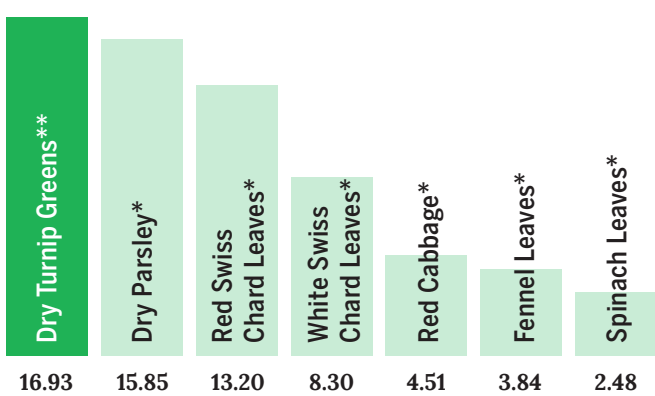
## Gallic Acid Equivalence

### What is GAE?

GAE, or “gallic acid equivalence,” indicates levels of important phytoactives available in the plant and extracts. GAE is derived by comparing to the gallic acid reference standard, a simple phenolic substance. Studies have shown that phytoactives in plants contribute to their beneficial effect on development of chronic diseases.

## Total Phenolic Concentration

Measured: Total Phenolics as Gallic Acid Equivalence (mg/g)



\* Data is mean values from Phenol-Explorer Database<sup>1</sup>

\*\* Data on file with Wholistic Matters

Values subject to change based on strain and experimental methods

## Key Nutrients

Percentages shown as %DV per dry serving of turnip greens (5.68g)

### Vitamin K

Vital for blood clotting and healthy bones.

23%

### Folate

An essential vitamin used in synthesis of DNA and RNA, amino acid metabolism, and prevention of neural tube defects.

21%

### Vitamin E

A micronutrient with antioxidant activity that supports the immune system and metabolism.

12%

### Calcium

The most abundant mineral in the body, a key structure of bones, and component of muscle function, vascular contraction, nerve transmission, cellular signaling, and hormone secretion.

10%

### Vitamin B6

A B vitamin that acts as a coenzyme in many biological functions and is a primary component of protein metabolism.

9%

## Other Nutrients

(in order of %DV per dry serving of turnip greens (5.68g))

Manganese

Magnesium

Fiber

Biotin (Vitamin B7)

Potassium

Protein

Copper

Phosphorus

Pantothenic acid (Vitamin B5)

Zinc

Choline

Carbohydrate

Selenium



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We are dedicated to advancing the latest insights and information available in nutrition therapy and clinical nutrition and to presenting only the most balanced, credible, and reliable clinical nutrition and science available.

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## References

1. Rothwell, J.A., et al., Phenol-Explorer 3.0: a major update of the Phenol-Explorer database to incorporate data on the effects of food processing on polyphenol content. Database, 2013. 2013: p. bat070-bat070.