

# Spanish Black Radish



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Spanish Black Radish (*Raphinoussativus L. Var. niger*) is a cruciferous vegetable associated with the production of detoxification enzymes, healthy digestion, and healthy liver and gallbladder function. Spanish black radish is grown for its rich supply of glucosinolates.

## Phytoactives

### Fiber

*Supports cardiovascular health, healthy bowel function, and healthy cholesterol levels*

### 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*

- Glucobrassicin** (11.835 mg/g)\*\*
- Sinigrin** (0.215 mg/g)\*\*
- Gluconapin** (0.2 mg/g)\*\*
- Glucoraphanin** (0.12 mg/g)\*\*
- Glucoerucin** (0.095 mg/g)\*\*
- Glucobrassicin** (0.082 mg/g)\*\*
- Glucobrassicinapin** (0.058 mg/g)\*\*
- Glucoraphenin** (0.004 mg/g)\*\*
- Neoglucobrassicin** (0.002 mg/g)\*\*
- 4-MeOH Glucobrassicin** (0.002 mg/g)\*\*

### Tannins

*Large set of diverse phenolic compounds found in plants that contribute to antioxidant activity, antimicrobial action, and distinct dark color*

### Saponins

*Compounds that support the immune system, healthy cholesterol levels, and blood glucose levels*

## What is the Whole Food Matrix?

*Supports balanced immune modulation for healthy inflammation response*

*Supports gut microbes and a healthy metabolic fingerprint of the gut*

*Enhances nutrient bioavailability up to 60%*

*Includes organic and adaptive regenerative farming techniques that deliver a nutrient-dense source of key phytonutrients and help balance healthy lifestyles*

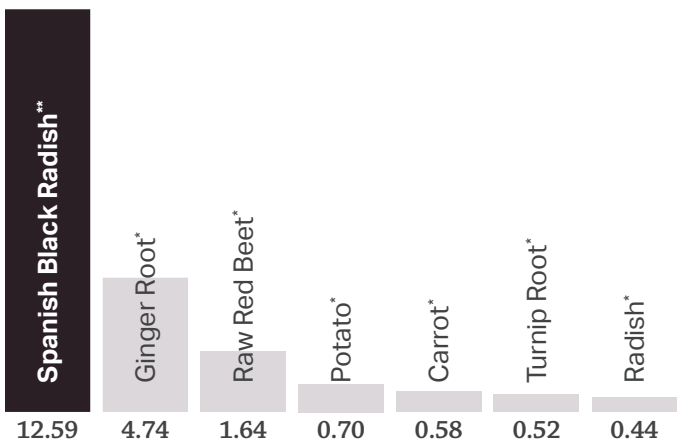
*Increases intake of vegetables and fruits in whole food nutrition to influence individual epigenetic expression*

## Gallic Acid Equivalence

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)

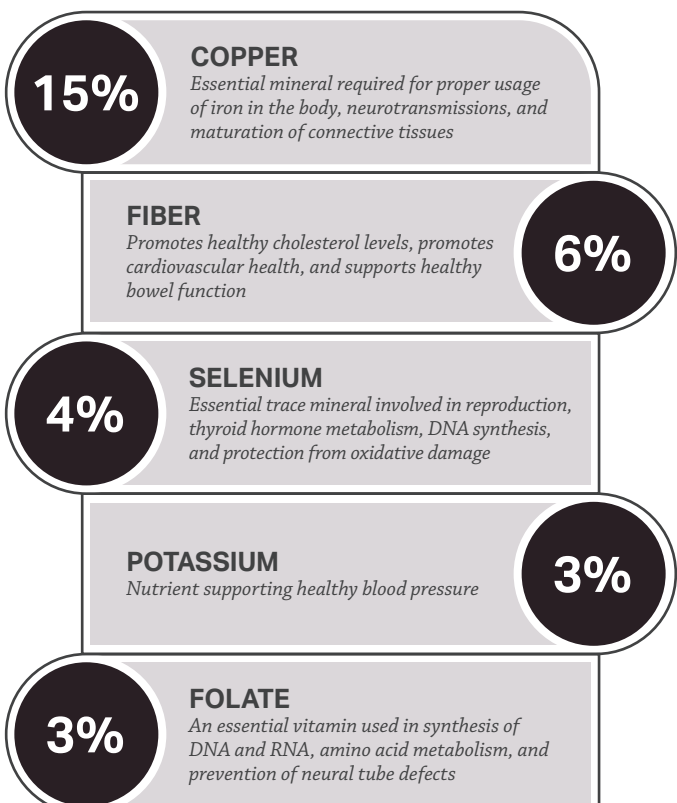


\* Data is mean values from Phenol-Explorer Database<sup>1</sup>

\*\* Data on file with WholisticMatters  
Values subject to change based on strain and experimental methods

## Key Nutrients

Percentages shown as %DV per dry serving of 5.5g Spanish black radish



## Other Nutrients

In order of %DV per 5.5g Spanish black radish

- Calcium
- Magnesium
- Manganese
- Biotin
- Zinc
- Choline
- Phosphorus
- Pantothenic acid
- Vitamin B<sub>6</sub>



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## REFERENCES

- Janjua, S. and M. Shahid, Phytochemical analysis and in vitro antibacterial activity of root peel extract of *Raphanus sativus* L. var *niger*. *Advancement in Medicinal Plant Research*, 2013. 1(1): p. 1-7.
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