

Profiling of Bioactive Components in Ginseng

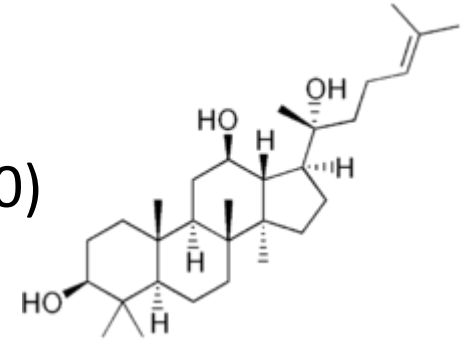
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Behind therapeutic effects...



- **Saponins – Ginsenosides (≥ 100)**



Chemistry

- **Polysaccharides**

- **Flavonoids**

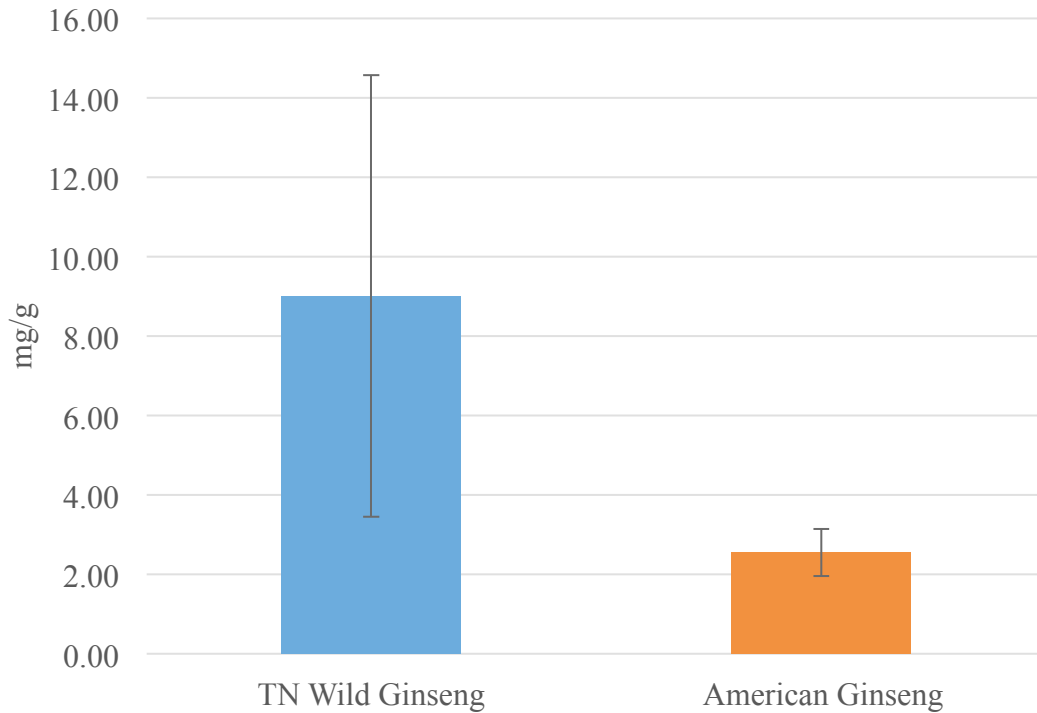
- **Polyacetylenes**

More Benefits

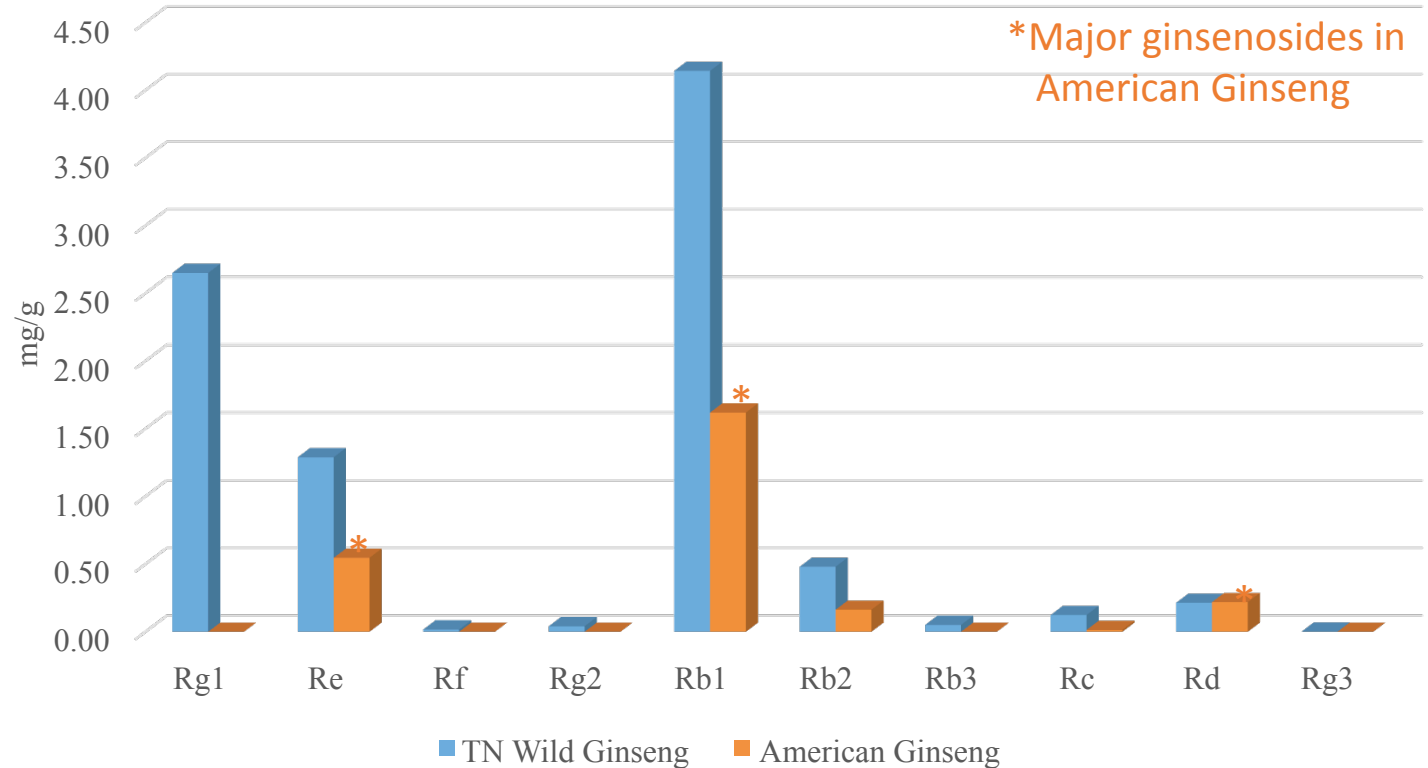
- Quality Assurance
- Authenticity
- Traceability
- Reputation

A Special One in Ginseng Family

Comparison of total ginsenosides in dry root between TN Wild Ginseng and American Ginseng



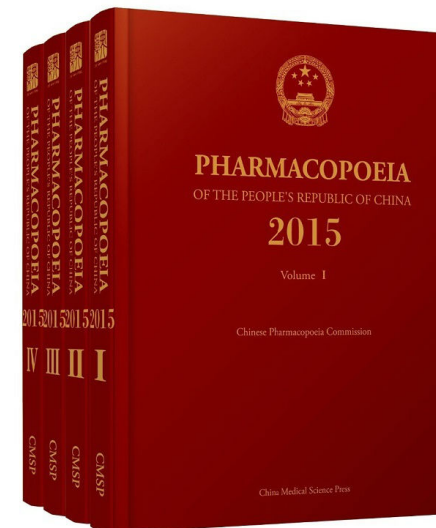
Comparison of 10 ginsenosides in dry root between TN Wild Ginseng and American Ginseng



32/41 TN wild Ginseng with Rg1:Rb1 ≥ 0.4 (mean = 0.7 ± 0.4)

Testing Method

- FAO/WHO Guidance – CODEX STAN 321-2015 (Standard for Ginseng Products)
- Chinese Pharmacopoeia – Ginseng



Certificate

- Level I – Total crude ginsenosides

CS: total crude ginsenosides no less than 20 mg/g.

- Level II- Total crude ginsenosides and three major ginsenosides (Rg1, Re, Rb1)

CS: total crude ginsenosides no less than 20 mg/g.

CP: Rg1 + Re no less than 3 mg/g, Rb1 no less than 2 mg/g.

- Level III – Total crude ginsenosides, ten major ginsenosides (Rg1, Re, Rb1, Rf, Rg2, Rg3, Rb2, Rb3, Rc, Rd), and water content.

CS: total crude ginsenosides no less than 20 mg/g.

CP: Rg1 + Re no less than 3 mg/g, Re no less than 2 mg/g.

CS: water content is less than 14%; CP: water content is less than 12%.

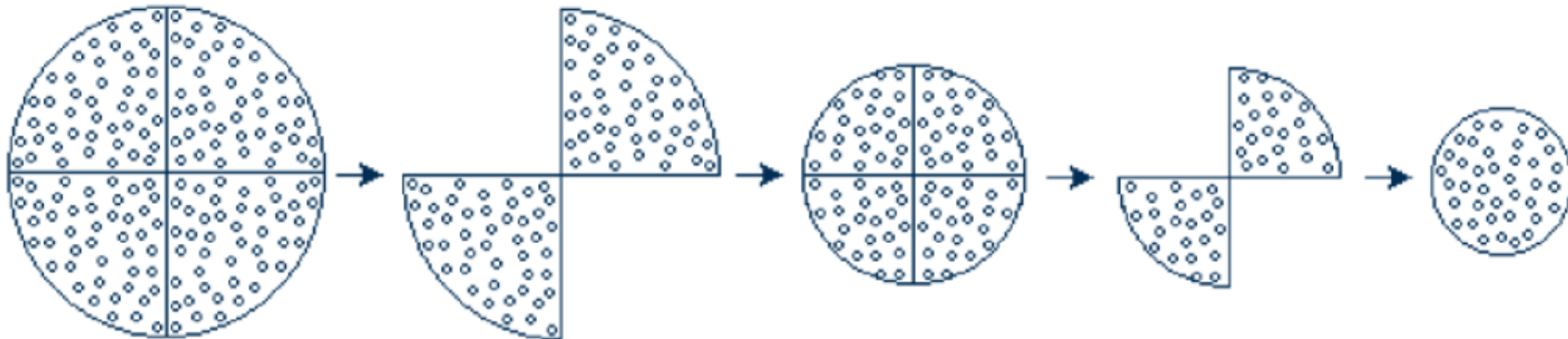
Analysis Process

- Sample preparation: Extraction & Distillation (~ 15 h/sample)
- Instrumental analysis: High performance liquid chromatography (~1.5 h/sample + 1.5 h/reference standards)
- Therefore the certificate may cost you \$50 (TBD)

Sampling Recommendation

- Select representative samples: 3-5 /pound

Quartering procedure may be used for bulk samples



How to Quantify Ginsenosides

