

02/24/2014 rev1

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## Certificate of Analysis

**Customer: Vital and Young S.p.A.****Sample Identification:**

Batch #: B-14081a

BL ID #: 14-0101

Description: MAQUI5000@, Natural Antioxidants and Polyphenols, Capsules, M410813

Date Received: 02/12/2014

**Results:**

Analysis	Result	Units
Antioxidant power against peroxy radicals	11,597	µmole TE/gram
Antioxidant power against hydroxyl radicals	26,870	µmole TE/gram
Antioxidant power against peroxynitrite	786	µmole TE/gram
Antioxidant power against super oxide anion	11,707	µmole TE/gram
Antioxidant power against singlet oxygen	1,181	µmole TE/gram
Total ORAC <sub>FN</sub> (sum of above)	52,141	µmole TE/gram

\* The acceptable precision of the ORAC assay is < 15% relative standard deviation.

There are five predominant reactive species found in the body: peroxy radicals, hydroxyl radicals, peroxynitrite, super oxide anion, and singlet oxygen. Total ORAC<sub>FN</sub> provides a measure of the total antioxidant power of a food/nutrition product against the five predominant reactive species.

The ORAC result is expressed as micromole trolox equivalency (µmole TE) per gram.

Signed for and on behalf of Brunswick Laboratories

**Authorized Signature****Jin Ji, Ph.D****REFERENCES:**

- [1] Ou, B. *et al.*, *J Agric and Food Chem*, **2001**, 49 (10): 4619-4626.
- [2] Huang, D. *et al.*, *J Agric and Food Chem*, **2002**, 50 (7): 1815-1821.
- [3] Ou, B. *et al.*, *J Agric and Food Chem*, **2002**, 50 (10): 2772-2777.
- [4] Zhang, L. *et al.*, *Free Radic. Bio Med*, **2007**, 43 (suppl. 1): S17.
- [5] Dubost, N.J. *et al.*, *Food Chem*, **2007**, 105 (2): 727-735
- [6] Zhang, L. *et al.*, *J Agric and Food Chem*, **2009**, 57(7): 2661-2667.
- [7] Ou, B. *et al.*, Method for assaying the antioxidant capacity of a sample. *US Patent 7, 132, 296 B2*.

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