

Certificate of Analysis

Carriganore House,
Waterford Institute of
Technology, West
Campus, Waterford,
Ireland 051-845505

Report Issued to: MacuHealth LLC™(USA)

Product name: MacuHealth Plus

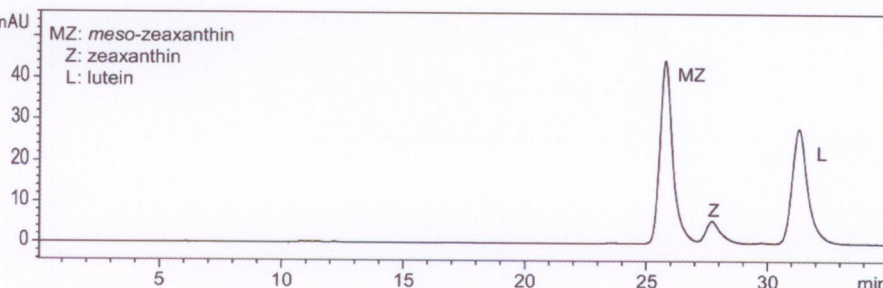
Lot number: 26050-F9

Expiry date: Nov/21

Date received: 2019.03.19

Date analysed: 2019.09.30

Analysis ID: 190044



Analyte	Declared (mg/capsule)	Measured (mg/capsule ± U _{95%}) ^a	% Achieved (95% confidence)	Result ^b
Lutein	10.00	9.90 ± 0.44	99 (95 - 103)	Pass
Zeaxanthin	2.00	2.20 ± 0.06	110 (107 - 113)	Exceeds
Meso-zeaxanthin	10.00	13.69 ± 0.22	137 (135 - 139)	Exceeds

^(a) U_{95%} = 1.96 Standard Deviation. NIST 1297 (1993)

^(b) % Achieved (95% confidence) is equal (pass), below (fail) or above (excess) to 100%

Quality Control	Specification ^c	Value	Result
Accuracy ^d	85 - 115%	94.93 %	Conform
Precision ^e	RSD ^d < 15%	0.55 %	Conform

^(c) European Medicines Agency (EMA). Guideline on Bioanalytical Method Validation (2011)

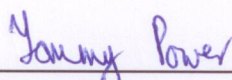
^(d) Closeness (Relative Standard Deviation, RSD) of determined concentration of lutein control sample to nominal lutein concentration

^(e) Within-run variability (RSD) of lutein peak area in control sample

Method

Technique: HPLC-DAD, column Daicel Chiralpak® IA-3
 Method: Prado-Cabrero et al. Eur Food Res Technol, 242, 599-608 (2016); 3 capsules analysed.
 Conditions: Isocratic run with hexane:isopropanol (90:10, v/v), flow rate of 0.5 mL min⁻¹. Column temperature 25°C.

History						
Date analyzed	Mar-19	Sep-19	Mar-20	Sep-20	Mar-21	Sep-21
# Report	190009	190044				
Lutein	9.70 ± 0.19	9.90 ± 0.44				
Zeaxanthin	2.12 ± 0.04	2.20 ± 0.06				
Meso-zeaxanthin	13.36 ± 0.27	13.69 ± 0.22				



Analyzed By: Tommy Power



Authorized By: Alfonso Prado-Cabrero, PhD

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