

## CERTIFICATE of ANALYSIS

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| <b>PRODUCT:</b>                | <b>Carnosic Acid</b><br>C <sub>20</sub> H <sub>28</sub> O <sub>4</sub> , M.W. 332.4, CAS# [3650-09-7]   |
| <b>PRODUCT NUMBER:</b>         | C-1213  |
| <b>LOT NUMBER:</b>             | J1035C  |
| <b>SOURCE/HOST:</b>            | Natural diterpenoid resorcinol isolated from <i>Rosmarinus officinalis</i> .  |
| <b>APPEARANCE:</b>             | Off white to yellow powder  |
| <b>SOLUBILITY:</b>             | Soluble in DMSO (50 mg/mL)  |
| <b>PURITY (HPLC):</b>          | 99%   |
| <b>NMR:</b>                    | Conforms  |
| <b>OTHER INFORMATION:</b>      | Antioxidant and free radical scavenger. Increases cellular levels of glutathione (GSH) and prevents 6-hydroxydopamine-induced cell death in SH-SY5Y cells. Carnosic acid-stimulation of GSH inhibits adipocyte differentiation. Induces apoptosis and inhibits the proliferation and migration of various tumor cell lines. Attenuates the activity of TNF $\alpha$ .                           |
| <b>STORAGE &amp; HANDLING:</b> | Store desiccated at -20°C. Store solutions at -20°C for up to 1 month. <b>PROTECT FROM LIGHT!</b><br><br>CAUTION: For research use only. Not for human or drug use. The pharmacological and toxicological properties of this product have not been fully investigated. Use caution when handling. Do not use this compound if you are not fully trained or are unaware of the hazards involved. |

Verified: KLS