



## CERTIFICATE of ANALYSIS

<b>PRODUCT:</b>	<b>Withaferin A;</b> NF- $\kappa$ B inhibitor; [5,6-Epoxy-4,27-dihydroxy-1-oxowitha-2,24-dienolide], C <sub>28</sub> H <sub>38</sub> O <sub>6</sub> , M.W. 470.6, CAS# [5119-48-2], M.I. 14: 10048; RTECS: KE7288500
<b>PRODUCT NUMBER:</b>	W-1042
<b>LOT NUMBER:</b>	B1989
<b>APPEARANCE:</b>	Off-white solid
<b>SOLUBILITY:</b>	Soluble in DMSO (20mg/ml), methanol (10mg/ml) or 100% ethanol.
<b>SOURCE/HOST:</b>	Isolated from <i>Withania somnifera</i> .
<b>PURITY (HPLC):</b>	≥99%
<b>PRODUCT DESCRIPTION:</b>	Cell permeable and potent angiogenesis inhibitor from the family of withanolides. Inhibits endothelial cells (HUVEC) sprouting <i>in vitro</i> (IC <sub>50</sub> = 12nM) and <i>in vivo</i> . Exhibits antitumor, anti-inflammatory, radiosensitizing, and immunosuppressive properties. Potently inhibits NF- $\kappa$ B activation by preventing the TNF-induced activation of I $\kappa$ B kinase $\beta$ (IKK $\beta$ ). Elicits IKK $\beta$ hyperphosphorylation concomitant with inhibition of its kinase activity. Affects AP1 transcription and induces cell death. Alters cytoskeletal architecture by covalently binding annexin II and stimulating its basal F-actin cross-linking activity which inhibits the migratory and invasive capability of endothelial cells. Targets the intermediate filament protein vimentin. Displays neuronal regenerative properties. It induced significant regeneration of

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both axons and dendrites in an A  $\beta$ -induced axonal atrophy model.

## STORAGE & HANDLING:

Store at -20°C. Stock solutions are stable for up to 3 months at -20°C. **PROTECT FROM LIGHT!**

**WARNING: HARMFUL! MAY BE CARCINOGENIC! MAY BE MUTAGENIC!**

CAUTION: For laboratory research & scientific manufacturing 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: DD