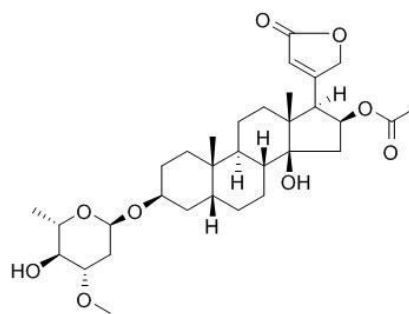


## Oleandrin Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)**[ Product Information ]****Name:** Oleandrin**Catalog No.:** CFN98693**Cas No.:** 465-16-7**Purity:** > 98%**M.F:** C<sub>32</sub>H<sub>48</sub>O<sub>9</sub>**M.W:** 576.7**Physical Description:** Powder

**Synonyms:**[(3S,10S,13R,14S,16S,17R)-14-hydroxy-3-[[[(2R,4S,5S,6S)-5-hydroxy-4-methoxy-6-methyl-2-oxanyl]oxy]-10,13-dimethyl-17-(5-oxo-2H-furan-3-yl)-1,2,3,4,5,6,7,8,9,11,12,15,16,17-tetradecahydrocyclopenta[a]phenanthren-16-yl] ester.

**[ Intended Use ]**

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

**[ Source ]**The herbs of *Nerium oleander L.*

## **[ Biological Activity or Inhibitors]**

Oleandrin (trans-3,4',5-trihydroxystilbene), a polyphenolic cardiac glycoside derived from the leaves of Nerium oleander, has been used in the treatment of cardiac abnormalities in Russia and China for years; its anticarcinogenic, anti-inflammatory, and growth-modulatory effects may thus be partially ascribed to the inhibition of activation of NF- $\kappa$ B and AP-1 and potentiation of apoptosis.<sup>[1]</sup>

Oleandrin, a Lipid-Soluble Cardiac Glycoside, can mediate the autophagic cell death of human pancreatic tumor cells reducing pAkt and increasing pERK.<sup>[2]</sup>

Oleandrin induces DNA damage responses in cancer cells by suppressing the expression of Rad51.<sup>[3]</sup>

Inhibition of caspase-3 activation with Z-DEVD-FMK abrogated the oleandrin-induced enhancement of radiation response suggesting that both oleandrin and radiation share a caspase-3 dependent mechanism of in the PC-3 cell line.<sup>[4]</sup>

Oleandrin has neuroprotective activity , can provide significant neuroprotection to neural tissues damaged by oxygen and glucose deprivation as occurs in ischemic stroke. <sup>[5]</sup>

Oleandrin has cardiac toxic effect, oleandrin plant poisoning is common in children and the plant extract is used in Chinese medicines, digibind may be useful in treating patients exposed to the toxin.<sup>[6]</sup>

Oleandrin has potent anti-proliferative activity, cellular location and expression of Na<sup>+</sup> , K<sup>+</sup> -ATPase  $\alpha$  subunits affect the anti-proliferative activity of oleandrin.<sup>[7]</sup>

Short-term (1 h; pulse) exposure to a toxic glycoside oleandrin, enhanced biological responses to IL-8 in monocytic cells, without cytotoxicity; pulse exposure to oleandrin could provide a viable therapy for those conditions where leukocyte migration is defective.<sup>[8]</sup>

## **[ Solvent ]**

Pyridine, DMSO, Methanol, Ethanol, Hot water, etc.

## **[ HPLC Method ]**<sup>[9]</sup>

HPTLC

Mobile phase: Chloroform-Acetone-Acetic acid =8.5:1:0.5;

The wave length of determination: 270 nm.

## **[ Storage ]**

2-8°C, Protected from air and light, refrigerate or freeze.

## **[ References ]**

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- [5] Dunn D E, He D N, Yang P, *et al. J. Neurochem.*, 2011, 119(4):805-14.
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- [7] Yang P, Cartwright C, Efuet E, *et al. Mol. Carcinogen*, 2014, 53(4):253-63.
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