# Product data sheet

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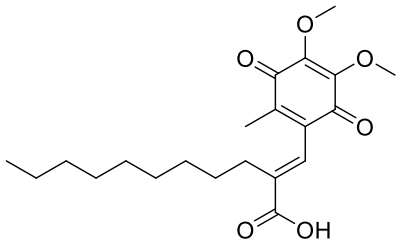
|---|---|
| MedKoo Cat#: 406611<br>Name: E3330<br>CAS#: 136164-66-4<br>Chemical Formula: $C_{21}H_{30}O_6$<br>Exact Mass: 378.20424<br>Molecular Weight: 378.46 | |
| Product supplied as: | Powder |
| Purity (by HPLC): | ≥ 98% |
| Shipping conditions | Ambient temperature |
| Storage conditions: | Powder: -20°C 3 years; 4°C 2 years. |
| | In solvent: -80°C 3 months; -20°C 2 weeks. |



**1. Product description:**
E3330 is a potent and selective inhibitor of AP endonuclease 1 redox domain.E3330 significantly reduces the growth of human pancreatic cancer cells in vitro and inhibits pancreatic cancer cell migration. E3330 blocks tnf-α-induced activation of IL-8 production in liver cancer cell lines. E3330 inhibits the growth of tumor endothelium and endothelial progenitor cells: therapeutic implications in tumor angiogenesis.

**2. CoA, QC data, SDS, and handling instruction**
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

**3. Solubility data**

| Solvent | Max Conc. mg/mL | Max Conc. mM |
|---|---|---|
| DMSO | 175.0 | 462.40 |
| Ethanol | 75.0 | 198.17 |

**4. Stock solution preparation table:**

| **Concentration / Solvent Volume / Mass** | **1 mg** | **5 mg** | **10 mg** |
|---|---|---|---|
| 1 mM | 2.64 mL | 13.21 mL | 26.42 mL |
| 5 mM | 0.53 mL | 2.64 mL | 5.28 mL |
| 10 mM | 0.26 mL | 1.32 mL | 2.64 mL |
| 50 mM | 0.05 mL | 0.26 mL | 0.53 mL |

**5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator**
Please refer the product web page under section of "Calculator"

**6. Recommended literature which reported protocols for in vitro and in vivo study**

In vitro study

1. Cesaratto L, Codarin E, Vascotto C, Leonardi A, Kelley MR, Tiribelli C, Tell G. Specific inhibition of the redox activity of ape1/ref-1 by e3330 blocks tnf-α-induced activation of IL-8 production in liver cancer cell lines. PLoS One. 2013 Aug 15;8(8):e70909. doi: 10.1371/journal.pone.0070909. PMID: 23967134; PMCID: PMC3744539.
2. Zou GM, Karikari C, Kabe Y, Handa H, Anders RA, Maitra A. The Ape-1/Ref-1 redox antagonist E3330 inhibits the growth of tumor endothelium and endothelial progenitor cells: therapeutic implications in tumor angiogenesis. J Cell Physiol. 2009 Apr;219(1):209-18. doi: 10.1002/jcp.21666. PMID: 19097035.

In vivo study

1. Zaky A, Bouali-Benazzouz R, Favereaux A, Tell G, Landry M. APE1/Ref-1 redox function contributes to inflammatory pain sensitization. Exp Neurol. 2018 Sep;307:1-11. doi: 10.1016/j.expneurol.2018.05.014. Epub 2018 May 14. PMID: 29772245.
2. Li Y, Liu X, Zhou T, Kelley MR, Edwards PA, Gao H, Qiao X. Suppression of choroidal neovascularization through inhibition of APE1/Ref-1 redox activity. Invest Ophthalmol Vis Sci. 2014 Jun 26;55(7):4461-9. doi: 10.1167/iovs.14-14451. PMID: 24970265; PMCID: PMC4106251.

# Product data sheet

**7. Bioactivity**

Biological target:

E3330 (APX-3330) is an AP endonuclease 1 (APE1; REF-1) inhibitor, which suppresses NF-κB DNA-binding activity.

In vitro activity

To investigate the effect of E3330 on TNF-α-induced IL-8 expression, JHH6 cells were pre-treated with 100 μM E3330 for 4 h before exposure to TNF-α. As shown in figure 4, pre-treatment with E3330 significantly decreased TNF-α-induced IL-8 expression in terms of both endogenous mRNA transcription (Fig. 4A) and protein production (Fig. 4B). These data point to a potential use of E3330 to reduce the inflammatory processes in liver diseases such as those associated with NASH.

Reference: PLoS One. 2013; 8(8): e70909. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3744539/

In vivo activity

Interestingly, E3330 partially prevented pain sensitization that occurs between day zero and day 4 (CFA+E3330, 117.31 ± 8.44 and 96.93 ± 3.92 at days 0 and 4, respectively, $p < .05$). On day 4, E3330 application significantly increased the paw withdrawal threshold (pain alleviation) in CFA rats as compared to the CFA rats injected with saline (CFA+Saline vs CFA+E3330 at day 4, $p < .001$) (Fig. 7). Accordingly, the CFA+Saline group exhibited significantly higher pain sensitivity with respect to CFA+E3330 rats ($p < .001$, 118.60 ± 6.64 and 66.75 ± 7.59 at days zero and 4, respectively). These results demonstrate that APE1 redox function is implicated, at least partially, in pain pathway.

Reference: Exp Neurol. 2018 Sep;307:1-11. doi: 10.1016/j.expneurol.2018.05.014. https://pubmed.ncbi.nlm.nih.gov/29772245/

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*