

# Product data sheet



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| MedKoo Cat#: 326750<br>Name: Resatorvid<br>CAS#: 243984-11-4<br>Chemical Formula: C <sub>17</sub> H <sub>13</sub> N <sub>5</sub><br>Exact Mass: 361.0551<br>Molecular Weight: 361.81 |   |
| Product supplied as:   | Powder  |
| Purity (by HPLC):  | ≥ 98%   |
| Shipping conditions  | Ambient temperature   |
| Storage conditions:  | Powder: -20°C 3 years; 4°C 2 years.<br>In solvent: -80°C 3 months; -20°C 2 weeks. |

## 1. Product description:

Resatorvid, also known as TAK-242, is a cell-permeable inhibitor of TLR4 signaling.

## 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    | 100             | 276.38       |

## 4. Stock solution preparation table:

| Concentration / Solvent Volume / Mass | 1 mg    | 5 mg     | 10 mg    |
|---------------------------------------|---------|----------|----------|
| 1 mM                                  | 2.76 mL | 13.82 mL | 27.64 mL |
| 5 mM                                  | 0.55 mL | 2.76 mL  | 5.53 mL  |
| 10 mM                                 | 0.28 mL | 1.38 mL  | 2.76 mL  |
| 50 mM                                 | 0.06 mL | 0.28 mL  | 0.55 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

- Cai J, Li Y, Hu P, Xu R, Yuan H, Zhang W, Feng T, Liu R, Li W, Zhu C. Plerixafor and resatorvid inhibit hepatitis B virus in vitro by upregulating elongation factor Tu GTP-binding domain containing 2. *Front Cell Infect Microbiol.* 2023 Feb 20;13:1118801. doi: 10.3389/fcimb.2023.1118801. PMID: 36891156; PMCID: PMC9986551.
- Kashani B, Zandi Z, Bashash D, Zaghali A, Momeny M, Poursani EM, Pourbagheri-Sigaroodi A, Mousavi SA, Ghaffari SH. Small molecule inhibitor of TLR4 inhibits ovarian cancer cell proliferation: new insight into the anticancer effect of TAK-242 (Resatorvid). *Cancer Chemother Pharmacol.* 2020 Jan;85(1):47-59. doi: 10.1007/s00280-019-03988-y. Epub 2019 Nov 30. PMID: 31786654.

### In vivo study

- Jiang LJ, Xu ZX, Wu MF, Dong GQ, Zhang LL, Gao JY, Feng CX, Feng X. Resatorvid protects against hypoxic-ischemic brain damage in neonatal rats. *Neural Regen Res.* 2020 Jul;15(7):1316-1325. doi: 10.4103/1673-5374.272615. PMID: 31960818; PMCID: PMC7047798.
- Blohm-Mangone K, Burkett NB, Tahsin S, Myrdal PB, Aodah A, Ho B, Janda J, McComas M, Saboda K, Roe DJ, Dong Z, Bode AM, Petricoin EF 3rd, Calvert VS, Curriel-Lewandrowski C, Alberts DS, Wondrak GT, Dickinson SE. Pharmacological TLR4 Antagonism Using Topical Resatorvid Blocks Solar UV-Induced Skin Tumorigenesis in SKH-1 Mice. *Cancer Prev Res (Phila).* 2018 May;11(5):265-278. doi: 10.1158/1940-6207.CAPR-17-0349. Epub 2018 Feb 1. PMID: 29437671; PMCID: PMC5932085.

## 7. Bioactivity

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## Biological target:

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Resatorvid inhibits NO, TNF- $\alpha$  and IL-6 production with IC50s of 1.8 nM, 1.9 nM and 1.3 nM, respectively. Resatorvid downregulates expression of TLR4 downstream signaling molecules MyD88 and TRIF. Resatorvid inhibits autophagy, plays pivotal role in various inflammatory diseases, and provides neuroprotection in experimental traumatic brain injury treatment.

## In vitro activity

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This study identified resatorvid as a novel hepatitis B virus inhibitor in vitro. These findings provide information on the development of a new class of anti-hepatitis B virus agents that act on host factors rather than viral enzymes.

Reference: Front Cell Infect Microbiol. 2023 Feb 20;13:1118801. <https://pubmed.ncbi.nlm.nih.gov/36891156/>

## In vivo activity

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Resatorvid appears to exert a neuroprotective effect after HIBD by inhibiting activation of autophagy and the release of inflammatory cytokines via inhibition of the TLR4/NF- $\kappa$ B signaling pathway.

Reference: Neural Regen Res. 2020 Jul;15(7):1316-1325. <https://pubmed.ncbi.nlm.nih.gov/31960818/>

*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.*