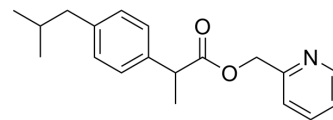


## Ibuprofen piconol

|                    |   |
|--------------------|---|
| Cat. No.:          | HY-101482   |
| CAS No.:           | 64622-45-3  |
| Molecular Formula: | C <sub>19</sub> H <sub>23</sub> NO <sub>2</sub>   |
| Molecular Weight:  | 297.39  |
| Target:            | Others  |
| Pathway:           | Others  |
| Storage:           | <div>Pure form</div> <div>-20°C 3 years</div> <div>4°C 2 years</div> <div>In solvent</div> <div>-80°C 6 months</div> <div>-20°C 1 month</div> |



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 50 mg/mL (168.13 mM)  
 \* "≥" means soluble, but saturation unknown.

|                           | Solvent<br>Concentration | Mass | 1 mg      | 5 mg       | 10 mg      |
|---------------------------|--------------------------|------|-----------|------------|------------|
|                           |                          |      |           |            |            |
| Preparing Stock Solutions | 1 mM                     |      | 3.3626 mL | 16.8129 mL | 33.6259 mL |
|                           | 5 mM                     |      | 0.6725 mL | 3.3626 mL  | 6.7252 mL  |
|                           | 10 mM                    |      | 0.3363 mL | 1.6813 mL  | 3.3626 mL  |

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Ibuprofen piconol is a non-steroidal, anti-inflammatory (NSAID) agent for the topical relief of primary thermal burns and sunburns.

#### In Vitro

Ibuprofen piconol is a chemically stable, slightly hygroscopic liquid that strongly partitions into the oil phase and shows no indication of surface activity. This drug has very limited solubility in water (16.5 ppm), modest solubility in glycerol (16.4 mg/mL), and is miscible with less polar organics except for silicone fluids<sup>[1]</sup>. Varying the initial concentration of ibuprofen

|                |  |
|----------------|--|
|                | <p>piconol does not alter the hydrolysis half-life (concentration range from 50 to 200 µg/mL). The anticoagulant used alters the hydrolysis half-life. For plasma, the half-life is shortest when no anticoagulant is present (<math>t_{1/2}</math>=2.5 h) and longer with the presence of anticoagulants; <math>t_{1/2}</math>=8.0 h for citrate, <math>t_{1/2}</math>=15.5 h for heparin and <math>t_{1/2}</math>=161.8 h for EDTA. Red blood cell uptake of ibuprofen piconol is minimal and ranges from 0.4 to 4.1% over the ibuprofen piconol concentrations used in the study<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |
| <b>In Vivo</b> | <p>When ibuprofen piconol is applied topically, only ibuprofen and its metabolites are observed in plasma and urine. The conversion of ibuprofen piconol to ibuprofen appears to be extremely rapid in vivo<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>   |

## REFERENCES

- [1]. Pesheck CV, et al. Preformulation characterization of topical Ibuprofen Piconol. Drug Development and Industrial Pharmacy Vol. 19 , Iss. 15,1993
- [2]. Christensen JM, et al. Ibuprofen piconol hydrolysis in vitro in plasma, whole blood, and serum using different anticoagulants. J Pharm Sci. 1991 Jan;80(1):29-31.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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