

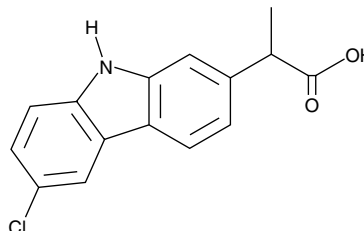
# Product Information



## Carprofen

Item No. 16409

**CAS Registry No.:** 53716-49-7  
**Formal Name:** 6-chloro- $\alpha$ -methyl-9H-carbazole-2-acetic acid  
**Synonyms:** Carprodyl, NSC 297935  
**MF:** C<sub>15</sub>H<sub>12</sub>ClNO<sub>2</sub>  
**FW:** 273.7  
**Purity:**  $\geq 98\%$   
**Stability:**  $\geq 2$  years at  $-20^{\circ}\text{C}$   
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 239, 263, 301, 332, 345 nm



### Laboratory Procedures

For long term storage, we suggest that carprofen be stored as supplied at  $-20^{\circ}\text{C}$ . It should be stable for at least two years.

Carprofen is supplied as a crystalline solid. A stock solution may be made by dissolving the carprofen in the solvent of choice. Carprofen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of carprofen in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Carprofen is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, carprofen should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Carprofen has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Carprofen is a non-steroidal anti-inflammatory drug (NSAID) commonly used in animals to combat pain and inflammation, particularly as associated with osteoarthritis.<sup>1,2</sup> Like many NSAIDs, carprofen inhibits both cyclooxygenases COX-1 and COX-2 ( $\text{IC}_{50}$ s = 22.3 and 3.9  $\mu\text{M}$ , respectively).<sup>3,4</sup> It also inhibits fatty acid amide hydrolase ( $\text{IC}_{50}$  = 74  $\mu\text{M}$ ), blocking the metabolism of the cannabinoid receptor ligand, arachidonoyl ethanolamide (Item No. 90050).<sup>4,5</sup>

### References

1. Malek, S., Sample, S.J., Schwartz, Z., *et al.* Effect of analgesic therapy on clinical outcome measures in a randomized controlled trial using client-owned dogs with hip osteoarthritis. *BMC Vet. Res.* 8, 1-17 (2012).
2. Brown, D.C., Boston, R.C., Coyne, J.C., *et al.* Ability of the canine brief pain inventory to detect response to treatment in dogs with osteoarthritis. *J. Am. Vet. Med. Assoc.* 233(8), 1278-1283 (2008).
3. Li, J., Lynch, M.P., DeMello, K.L., *et al.* *In vitro* and *in vivo* profile of 2-(3-di-fluoromethyl-5-phenylpyrazol-1-yl)-5-methanesulfonylpyridine, a potent, selective, and orally active canine COX-2 inhibitor. *Bioorg. Med. Chem. Lett.* 15, 1805-1809 (2005).
4. Favia, A.D., Habrant, D., Scarpelli, R., *et al.* Identification and characterization of carprofen as a multi-target FAAH/COX inhibitor. *J. Med. Chem.* 55(20), 8807-8826 (2012).
5. Bertolacci, L., Romeo, E., Veronesi, M., *et al.* A binding site for nonsteroidal anti-inflammatory drugs in fatty acid amide hydrolase. *J. Am. Chem. Soc.* 135(1), 22-25 (2013).

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