

Memo



To: Research Investigators and Staff, and ACUC
From: Dr. Greg Lawson
Date: 11/13/19
Re: Injectable Meloxicam and Carprofen on Backorder - Managing Alternatives

November 13, 2019 (updated 1/2/20)

The injectable form of Meloxicam and Carprofen are on backorder for the foreseeable future.

If you are ordering injectable meloxicam or carprofen for use under an approved protocol to provide analgesia, please be aware that you will need to find an alternative nonsteroidal anti-inflammatory drug (NSAID) or use an alternative formulation and route of administration.

Follow these steps to remain in compliance during any necessary transition:

1. The table below provides OLAC veterinary-approved NSAID alternatives to injectable meloxicam. These can be ordered through the OLAC pharmacy (<https://www.olac.berkeley.edu/pharmacy-purchase-request>).
2. Use the alternative in place of injectable meloxicam or carprofen. NOTE: if the alternative is not yet in the approved animal use protocol, you will need to receive authorization from an OLAC veterinarian to use it. Please email vetstaff@lists.berkeley.edu to obtain this authorization. Note on the surgery and post-operative record(s) that the use was approved by OLAC veterinarians.
3. Submit a protocol amendment **as soon as possible** to add the alternative(s) to injectable meloxicam. Do not remove injectable meloxicam, as it will eventually come off backorder. Consider adding all alternatives to the protocol. This will provide flexibility moving forward. If you have questions about amending your protocol, please email ACUC@berkeley.edu.

4. Contact OLAC veterinary staff at vetstaff@lists.berkeley.edu if you have questions about these alternatives, wish to discuss additional options, or observe any issues during use.

MICE			
DRUG	DOSE and ROUTE	ROUTE AND FREQUENCY	COMMENTS
Meloxicam	5-10 mg/kg; PO	Used peri-operatively for preemptive analgesia, with a second dose the next day and then every 24 hour if needed	<p>Oral solution available (1.5 mg/ml)</p> <p>Feeding tablet formulation: https://www.bio-serv.com/product/MMMD.html</p> <p>1 5-gm tablet (0.125 mg/tab) per mouse per day</p> <p>Placebo tab (no meloxicam) can be used 3 days prior to surgery to acclimate the animal. Place on the cage floor for easy access. The tablet is nutritionally complete, use in place of regular diet.</p>
Carprofen	4-5 mg/kg; SC or PO	Used peri-operatively for preemptive analgesia, with a second dose the next day and then every 24 hour if needed	<p>Injectable solution (50 mg/ml) carries a one-month shelf life after opening. Store at 4C, dilute stock solution 1:10 in sterile water or saline prior to administration.</p> <p>Drinking water formulation: 0.05mg carprofen per ml water (0.1 ml injectable carprofen (50 mg/ml) per 100 ml water). Place special water the day before surgery.</p> <p>Feeding tablet formulation: https://www.bio-serv.com/product/RRMD.html</p> <p>¼ 5g tablet per mouse per day</p> <p>Placebo tab (no carprofen) can be used 3 days prior to surgery to acclimate the animal. Place on the cage floor for easy access. The</p>

			tablet is nutritionally complete, use in place of regular diet.
Ketoprofen	3 mg/kg SC	Used peri-operatively for preemptive analgesia, with a second dose the next day and then every 24 hour if needed.	Mixed cox 1 and cox 2 inhibition carries increased risk of side effects. Recommend administration of 10 ml/kg SC fluids when ketoprofen is administered. Do not exceed 3 doses total. Contact vet staff to order diluted solution.

RATS			
DRUG	DOSE (mg/kg) and ROUTE	ROUTE AND FREQUENCY	COMMENTS
Meloxicam	1-2 mg/kg; PO	Used peri-operatively for preemptive analgesia, with a second dose the next day and then every 24 hour if needed	Oral solution available (1.5 mg/ml) Feeding tablet formulation: https://www.bio-serv.com/product/MRMD.html 1 5-gm tablet (0.5 mg/tab) per rat per day Placebo tab (no meloxicam) can be used 3 days prior to surgery to acclimate the animal. Place on the cage floor for easy access. The tablet is nutritionally complete, use in place of regular diet.
Carprofen	4-5 mg/kg; SC or PO	Used peri-operatively for preemptive analgesia, with a second dose the next day and then every 24 hour if needed	Injectable solution (50 mg/ml) carries a one-month shelf life after opening. Store at 4C, dilute stock solution 1:10 in sterile water or saline prior to administration. Drinking water formulation: 0.05mg to 0.1mg carprofen per ml water (Add 0.1 to 0.2 ml carprofen per 100 ml water). Place special water the day before surgery.

			<p>Feeding tablet formulation: https://www.bioserv.com/product/RRMD.html</p> <p>1 5g tablet per rat per day</p> <p>Placebo tab (no carprofen) can be used 3 days prior to surgery to acclimate the animal. Place on the cage floor for easy access. The tablet is nutritionally complete, use in place of regular diet.</p>
Ketoprofen	3 mg/kg SC	Used peri-operatively for preemptive analgesia, with a second dose the next day and then every 24 hour if needed.	<p>Mixed cox 1 and cox 2 inhibition carries increased risk of side effects. Recommend administration of 10 ml/kg SC fluids when ketoprofen is administered. Do not exceed 3 doses total.</p> <p>Contact vet staff to order diluted solution.</p>

Instructions for replacing standard diet with medicated tablets:

- On the first day that you will administer placebo and/or medicated tablets, remove all standard diet from the food hopper.
- Place a modified fasting sticker on the cage - be sure all information is complete.

- Provide medicated tablets daily on the floor of the cage as described in the protocol or as prescribed by veterinary staff (see memo about NSAID alternatives at www.olac.berkeley.edu)
- At the end of medicated tablet administration, replace standard diet in the food hopper and remove the modified fasting sticker.