

## Doxycycline Administration Protocol for Mice

More information from the Conklin Lab is available at <http://www.conklinlab.org>

### Doxycycline Administration in Water:

Make 100× doxycycline stock solution of 20 mg/ml of Doxycycline (Sigma) with water. (It takes about 2 minutes of shaking to get this into solution). This solution can be frozen in 5 ml aliquots, wrapped in tin foil.

In mouse facility, add the 100× stock to water bottles for final concentration 200 µg/ml. It is preferable to use amber water bottles since tetracycline and doxycycline are light sensitive (we use Wheaton "900" RediPak Amber GlassPackers with Caps, 250 ml, Fisher cat # 02-911-4)

It is not necessary to put sucrose in the water. For most purposes, this dose of doxycycline in great excess of what is required to suppress gene expression in peripheral organs (higher doses may be needed to reach the brain). Therefore we add fresh doxycycline-containing water weekly, but more frequent water changes are unnecessary.

### For IP injection of Doxycycline:

10 µg of Doxycycline in 0.5 cc of water can be given as a single IP injection. This is only necessary for very sick mice.

### For administration of Doxycycline in food pellets:

Doxycycline in food pellets can be ordered directly from Bio-Serv (908-996-2155), One 8th Street, Frenchtown, NJ 08825. These 1/2" pellets are made sterile with 200 mg of doxycycline per kg of regular mouse chow and the addition of green food coloring. When placing order, refer to catalog #S3888 with specification of the exact amount you want to order. The chow is dispensed in 10 kg boxes. We order 12 boxes every 3–4 months. The cost per 10 kg of chow is about \$20.

We have found that doxycycline administration in the food requires less work than doxycycline in the water, since the animal care staff can replenish the food. We find that the green food coloring is critical for keeping track of which mice are on doxycycline.