

# MDR1 Drug Sensitivity List

## Is Your Dog Affected?

Drugs that are known to cause problems in dogs with the MDR1 mutation include:

- |                                 |                              |
|---------------------------------|------------------------------|
| ☒ Acepromazine (sedative)       | ☒ Moxidectin (heartworm med) |
| ☒ Butorphenol (pain medication) | ☒ Vincristine (chemotherapy) |
| ☒ Emodepside (profender)        | ☒ Vinblastine (chemotherapy) |
| ☒ Ivermectin (heartworm med)    | ☒ Doxorubicin (chemotherapy) |
| ☒ Loperamide (Imodium)          | ☒ Others as yet unknown      |

Drugs that are *known* to be pumped out of the brain by the MDR1 gene protein but still *appear* to be safely tolerated by dogs positive for the MDR1 mutation:

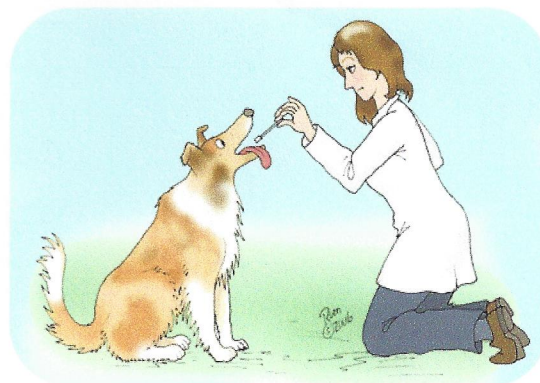
- Cyclosporin (chemotherapy)
- Digoxin (heart medication)
- Doxycycline (antibiotic)

Drugs that *may* be pumped out by the MDR1 protein -- but *appear* to be safely tolerated by dogs positive for the MDR1 mutation:

- Morphine (pain medication)
- Buprenorphine (pain medication)
- Fentanyl (pain medication)

The following drugs have been reported to be pumped out of the brain by MDR1 protein in *humans*, but there is currently no data on whether or not this is true for dogs. (Therefore use caution when administering these drugs to dogs positive for the MDR1 mutation.)

- Domperidone
- Etoposide
- Mitoxantrone
- Ondansetron
- Paclitaxel
- Rifampicin



**Genetic testing for the MDR1 gene is available now, and Dr. Jordan recommends that your dog be tested.**