November 13, 2001

William Stokes, DVM, DACLAM, Director
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Dear Dr. Stokes,

Ample evidence shows the benefits of using non-animal alternatives in toxicity testing. A key example is the work of the late internationally recognized Swedish toxicologist, Bjˆrn Ekwall, MD, PhD. Dr. Ekwall demonstrated that an inexpensive battery of human cell culture tests was more accurate than cruel and lethal animal tests in predicting human toxicity.

This one model of human cell culture tests has proven to be considerably more accurate in measuring and understanding toxicity than are the animal tests currently used. The tests were evaluated in a 10-year, multi-center study involving 29 laboratories in 15 countries, including the USA, Japan, Canada, Mexico, England, France, Spain, Italy, Germany, the Nordic countries and Russia.

Research such as Dr. Ekwall's has shown that animal testing, which animal advocates oppose as painful and lethal to animals, is also flawed and misleading science. In fact, the predictive accuracy of the LD50 tests on rats and mice has been estimated by Dr. Ekwall's team to be only 60 and 65% respectively, while the non-animal tests developed by Dr. Ekwall's team, using human cell line cultures, is 75% accurate in predicting human lethal toxicity.

Dr. Ekwall's project was the result of a collaboratively funded effort by animal advocacy and scientific organizations in the U.S. and Europe. It is an excellent example of how humane concerns and scientific advancement can and must go hand-in-hand.

Using animals to assess the risk of acute human chemical poisoning has serious shortcomings. Since results are given only as a toxic dose, which is simply a gross measurement of several different events, the test can point out toxic symptoms, but cannot directly point out toxic events such as specific organ damage.

Dr. Ekwall's Cytotoxicology Laboratory, Uppsala (CTLU)'s MEIC (Multicenter Evaluation of In Vitro Cutotoxicity) project shows clearly that in vitro testing will increase safety for consumers while sparing animals from painful and certainly unnecessary deaths.

His important work is being continued through EDIT (Evaluation-guided Development of New In Vitro Toxicity and Kinetic Tests) focusing on converting the MEIC findings into practical testing by further developing and evaluating batteries of in vitro tests for acute and chronic systemic toxicity.

The MEIC study demonstrated a high relevance of using human cell tests that determine basal cytotoxicity for estimating

human acute toxicity. Two types of in vitro tests are now being added to the existing test battery. These new tests will be able to determine key kinetic events (such as passage over biological barriers and biotransformation) and crucial organ-specific mechanisms.

While today it is possible to use in vitro tests to set a "starting dose" for lethal poisoning tests, this does not go far enough. Non-animal tests must be used to fully replace animal toxicity testing. Please consider that it is far better to wait for results from the EDIT program and other validation studies before starting any large-scale toxicity testing that would be based on invalid animal tests. Given that the animal model is ethically indefensible and scientifically unsound, to continue to use it as the cornerstone of toxicity testing is nothing short of irresponsible.

Even if the chemical testing were postponed for one or two years while waiting for the validation of further in vitro tests, it is entirely possible and likely that the testing still would be completed earlier than if the chemical testing started today using standard animal tests. And, equally important, the non-animal tests would be more scientifically accurate, more predictive, and a truer accomplishment of the aim of toxicity testing - to protect human health and well-being.

Thank you for this opportunity to comment on this issue of grave concern to both human and animal health. We urge an immediate end to all animal toxicity testing and the incorporation of in vitro non-animal models into all existing and planned toxicity testing programs.

Sincerely,

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