

## ACUBASE – A NOVEL ON-LINE DATABASE WITHIN ACUTETOX PROJECT

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AcuBase is in development as a central database for coherent management of all information relevant to an EU integrated research project on Acute Systemic Toxicity ('ACuteTox') [1, 2]. The database comprises two principal parts, for archiving *in vitro* and *in vivo* data respectively. The *in vitro* part provides a standard format repository for cytotoxicity assays generated by project partner research laboratories. The *in vivo* part compiles human acute toxicity data from single poisonings with chemicals; as well as LD50 values from different species, supported by experimental conditions.

At present, 97 reference chemicals have been selected, including different classes (drugs, industrials, biocides etc.) and categories of toxicity (from 1 to 5, according to Integrated Hazard Classification System). AcuBase also compiles physico-chemical and toxicokinetic/pharmacokinetic data about the reference chemicals.

Human blood poisoning reports include ingested dose, sub-lethal, lethal and post-mortem blood concentrations, symptoms and signs of acute poisoning, treatment of poisoned patients, and literature references. Information already collected in the Multicentre Evaluation of *In Vitro* Cytotoxicity (MEIC) study is complemented in AcuBase by additional data derived from continued literature searching, including scientific papers, monographs, handbooks, and data from poison information centres. Of particular relevance are peak blood concentrations derived from extrapolation of time-related data. Peak concentrations may be used as standards for evaluation of predictive capacity of *in vitro* data. In the *in vivo* animal part of AcuBase, human toxicity data will also be used for assessment of predictive potential of animal LD50 data compared to *in vitro* data.

Using data collected in the AcuBase, the first task will be to find the correlation of *in vitro* cytotoxicity data and *in vivo* animal and human data to identify outliers; and the statistical approach could be similar to that one applied in the MEIC study.

1. Clemedson, C., Kolman, A., Forsby, A. (2006) Integrated acute systemic toxicity project (ACuteTox) for optimization and validation of alternative *in vitro* tests. *ATLA*, In Press.
2. The public web site of the ACuteTox project is: [www.acutetox.org](http://www.acutetox.org)