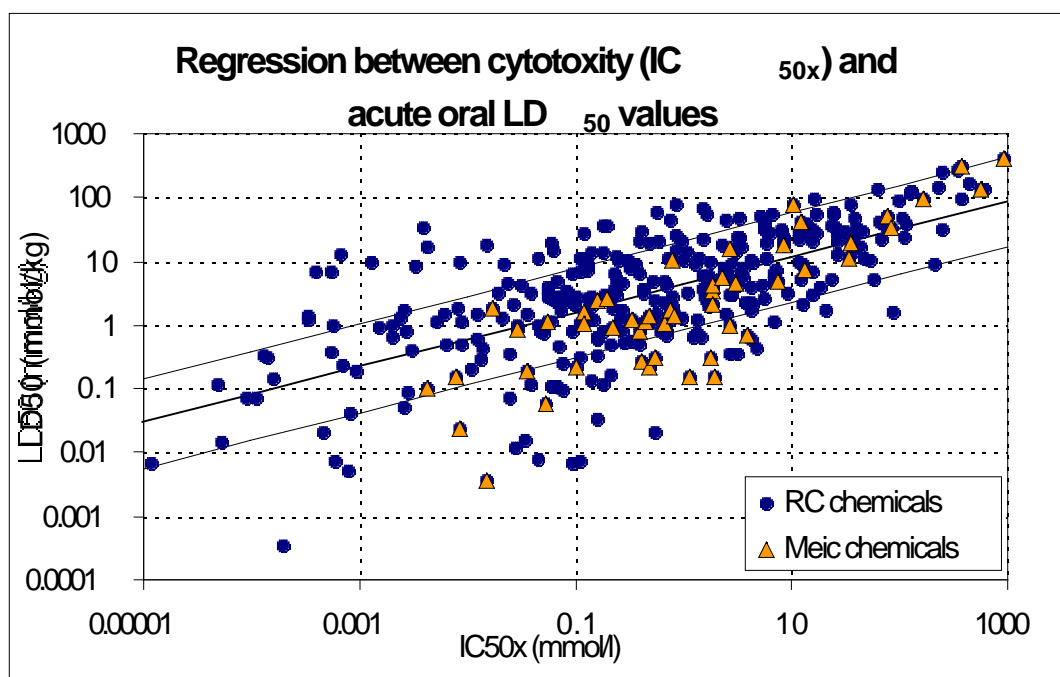


All data were taken from the Register of Cytotoxicity (RC). Cytotoxicity data are calculated as geometrical mean IC_{50x} values (mmol/l). 50 test chemicals (Meic data) are marked as \triangle . All Meic data are part of the RC (**Figure 1**).

The heavy line represents the fit of the data to a linear model (r=0,67), the two additional lines represent the empirical factor F_g= log 5 dose-range.

$$\log(\text{LD}_{50}) = 0.435 \times \log(\text{IC}_{50x}) + 0.625 \quad (1)$$

Figure 1: Regression between cytotoxicity IC_{50x} and acute oral LD₅₀ values of 347 non selected chemicals including 50 MEIC chemicals



If only 50 MEIC chemicals were taken from the Register of Cytotoxicity (RC) to calculate the linear regression, then the fit of the data to a linear model (r=0,84) results in **equation 2**, represented in **Figure 2**.

$$\log(\text{LD}_{50}) = 0.689 \times \log(\text{IC}_{50x}) + 0.276 \quad (2)$$

On the other hand, if the IC₅₀ values of the human cell lines were taken from the MEIC study part III and IV to calculate the linear regression, then the fit of the data to a linear model (r=0,81) results in **equation 3**, represented in **Figure 3**.

$$\log(\text{LD}_{50}) = 0.690 \times \log(\text{IC}_{50x}) + 0.080 \quad (3)$$

Therefore, the fit of the data results in similar standard regression lines with similar quality of the fit (r=0.84 and r=0.81). The result is confirmed by the correlation between IC_{50x} values and the IC₅₀ values of the human cell lines resulting in r=0.948.

Consequences: the quality of the IC_{50x} values and the IC₅₀ values of the human cell lines is similar and the choice of 50 MEIC test chemicals is very limited. Consequently, the choice of 347 test chemicals of the RC for the human cell line would reduce the quality of their prediction.

Figure 2: Regression between cytotoxicity IC_{50x} and acute oral LD_{50} values of 50 MEIC chemicals

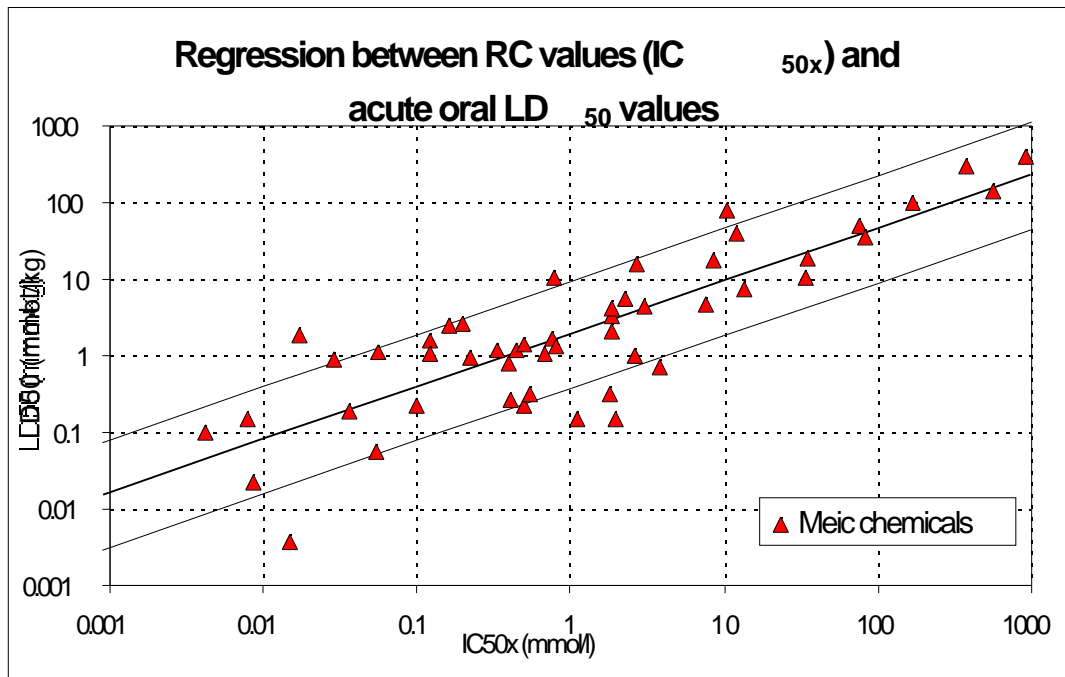


Figure 3: Regression between cytotoxicity IC_{50} human cell lines (MEIC part III and IV) and acute oral LD_{50} values of 50 MEIC chemicals

