

A1	Project Code	IPA-74 CellTox
A2	Project Title	Cell Biology and combination effects of chemical compounds
A3	External Cooperation Partners	Institut National de Recherche et de Sécurité (INRS); France Leibniz-Institut für Arbeitsforschung, Technical University, Dortmund University of Colorado, Denver, CO, USA
A4	Project Manager(s)	Dr. Sabine Plöttner

B1 – Aims
<ul style="list-style-type: none"> • Use of multiple test systems to study the effects of carcinogenic and mutagenic chemicals on the cellular level and both in humans (in vivo) and in experimental settings (in vitro). • Identifying early effects of carcinogens on the cellular level, e.g., cytotoxicity, the inhibition of apoptosis and increases in cell proliferation. • Use of “-omics”-technologies in toxicology to identify the mode-of-action of chemicals with a particular focus on epigenetics
B2 – Endpoints / Substances of Interest
<p><i>Lung Cancer</i></p> <ul style="list-style-type: none"> • Tumor induction and promotion of low-molecular-weight PAH • Cellular toxicity of PAH mixtures <p><i>Bladder Cancer</i></p> <ul style="list-style-type: none"> • Interaction of aromatic amines and PAH <p><i>Reproductive Toxicity</i></p> <ul style="list-style-type: none"> • Mode-of-action of developmental toxicants, e.g., organic solvents and metals
B3 – Selected Publications
<p>Plöttner S, Bastian LA, Käfferlein HU, Brüning T (2016) Effects of benzo[a]pyrene, aromatic amines, and a combination of both on CYP1A1 activities in RT-4 human bladder papilloma cells. <i>J. Toxicol. Environ. Health A</i> <u>79</u>: 1106-1117.</p> <p>Plöttner S, Käfferlein HU, Brüning T (2013) Miniaturization of cytotoxicity tests for concentration range-finding studies prior to conducting the pH 6.7 Syrian hamster embryo cell-transformation assay. <i>Mutat. Res.</i> <u>755</u>: 108-114.</p> <p>Kopp RS, Kumbartski M, Harth V, Brüning T, Käfferlein HU (2012) Partition of metals in the maternal/fetal unit and lead-associated decreases of fetal iron and manganese: an observational biomonitoring approach. <i>Arch. Toxicol.</i> <u>86</u>: 1571-1581.</p>