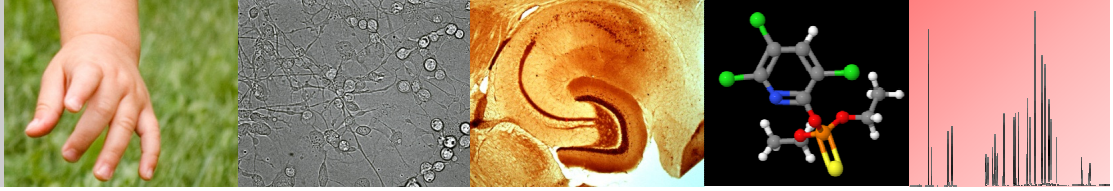
DENAMIC

Developmental neurotoxicity assessment of mixtures in children

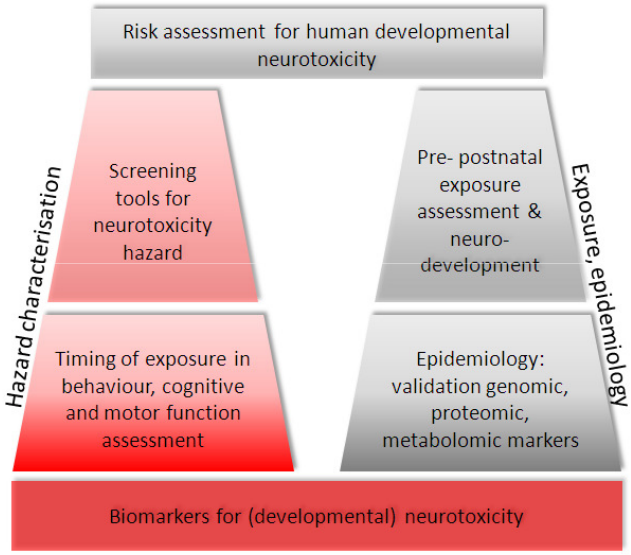


Developmental neurotoxicity assessment of mixtures in children

Worldwide, serious concern has arisen about the increased incidence of learning and developmental disorders in children. The European commission-funded project DENAMIC "Developmental Neurotoxicity Assessment of Mixtures in Children" investigates neurotoxic effects of low-concentration mixtures of pesticides and a number of common environmental pollutants in children.

About DENAMIC

- DENAMIC will develop tools and methods for screening of neurotoxic effects.
- The focus is on (subclinical) effects on learning (cognitive skills) and developmental disorders in children (e.g. ADHD, autism spectrum disorders and anxiety disorders).



Approach

The research in DENAMIC consists of two distinct pillars. The first pillar involves hazard characterisation for neurotoxic chemicals and (environmentally relevant) mixtures thereof. Novel tools, testing methods and procedures for screening (mixtures of) chemicals for neurotoxicity are developed, together with improved assessment methods for exposure and effects.

In the second pillar (exposure/epidemiology), perinatal and early-childhood exposure is studied in maternal urine and cord blood, as well as breast milk and urine of the child. In the epidemiological part these developed integrated tools are tested in a tailor made cohort of mother/child pairs focusing on learning and developmental disorders, including the onset of ADHD. Biomarkers for developmental neurotoxicity will be developed.

Which chemicals are studied?

The primarily focus is on possible neurotoxic effects of pesticides. Nonetheless, several other common environmental pollutants (e.g. flame retardants, plasticizers, perfluorinated compounds, metals) are known neurotoxicants and are therefore also included.

DENAMIC consortium

The project started in January 2012 and will run till December 2015. The DENAMIC consortium is a unique collaboration between universities, research institutes and SME's with a wide variety of scientific disciplines. The team consist of VU University Amsterdam (NL), Utrecht University (NL), Uppsala University (SE), Fundacion de La Comunidad Valenciana Centro de Investigacion Principe Felipe (ES), Slovak Medical University (SK), Masaryk University (CZ), Callisto Productions Ltd (UK), Center for Public Health Research (ES), Norwegian Institute of Public Health (NO), Instituto de Medicina Genomica (ES), Viewpoint (FR), Proteome Sciences plc (DE), Institutul National De Cercetare-Dezvoltare Pentru Electrochimie Si Materie Condensata (RO), Gen info Ltd (HR), Masarykova Univerzita (CZ).

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For more information **www.denamic-project.eu**