

# PETRO-Fertyl: Assessing the impact of the Petrochemical complex of Tarragona on male infertility

- Reseachers:

Elena Sánchez, Montse Marquès, Pablo Gago, Rubén Gil, María Ángeles Martínez, Nancy Babio, Jordi Salas, José L. Domingo

- Consortium:

The **PETRO project** (led by the Laboratory of Toxicology and Environmental Health) and **LedFertyl project** (led by the nutrition unit of the URV) have joined efforts to assess the impact of environmental pollution and lifestyle on male infertility. For this study, blood, urine and semen samples of healthy male participants aging 18 to 40 years old living near the petrochemical environment will be collected and further analysed.

- Background:

**Infertility** is defined as the inability of couples to achieve pregnancy following one year of unprotected intercourse. Following this criterion, infertility affect between 8% to 12% of reproductive-aged couples worldwide and males are involved for 40% to 50% of infertility cases. The **lifestyle** (diet, sport, sexual intercourse, smoking habits, stress) and exposure to **endocrine-disrupting chemicals** (EDCs) can cause disturbances in the endocrine system, which has a crucial role on the reproductive system.

PETRO-Fertyl will apply **target analysis** (BPA, phthalates, parabens, PBDs, TCDD, 1-OHP, SPMA, t,t-MA and heavy metals), **non-target analysis** and **metabolomics** to investigate the impact of **exposure determinants** on male infertility.

- Goal:

To determine potential biomarkers of male infertility and related metabolic pathways in individuals living close to a petrochemical complex