



Pyrene (HOP-G) ELISA

February 2022



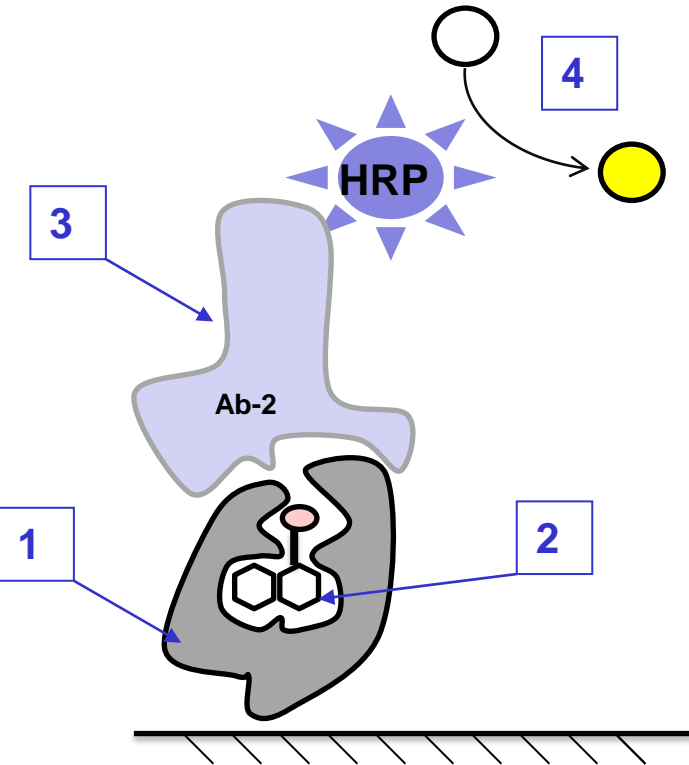
Exp@sure
Pyrene (HOP-G)

From



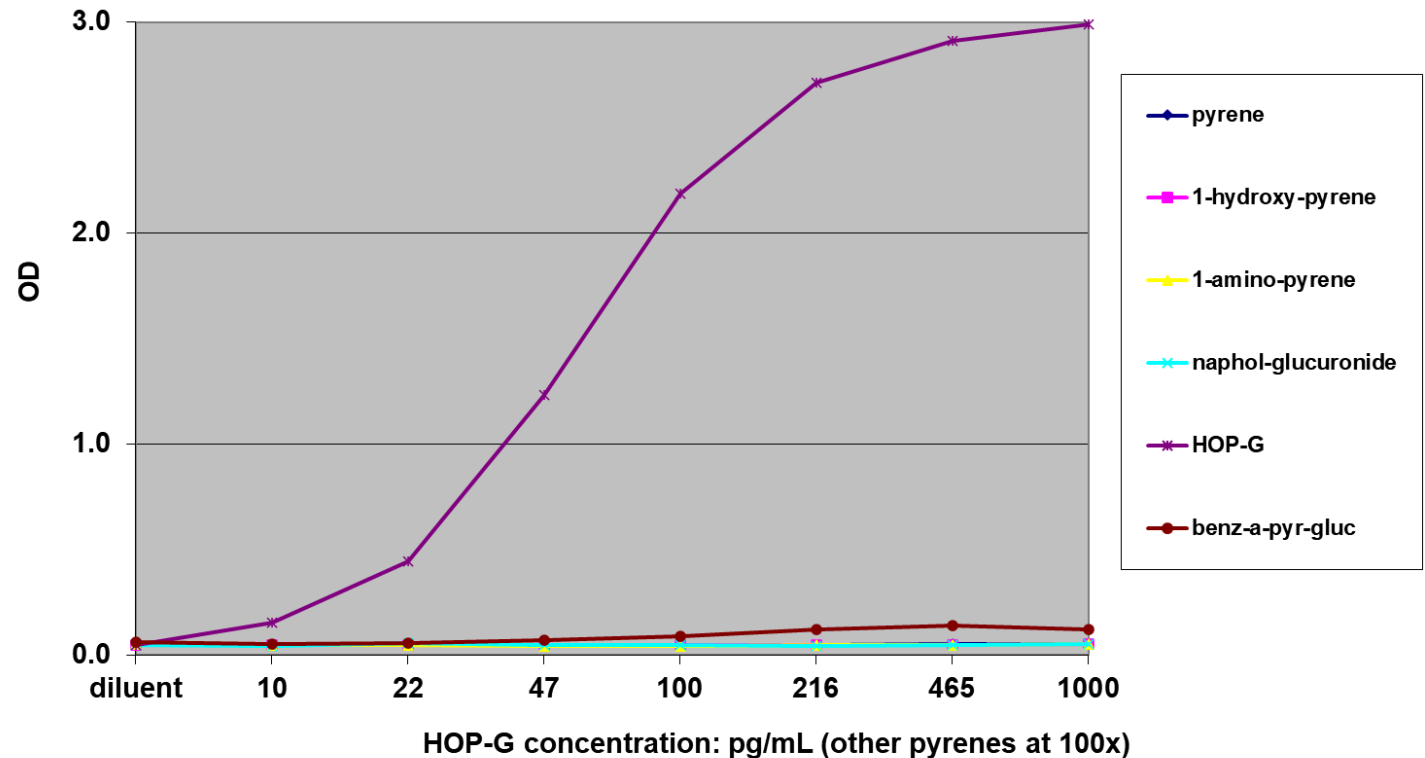
Bioventix

Pyrene Glucuronide (HOP-G) ELISA Format



1. HOPG.3G9B sheep monoclonal antibody to HOP-G
2. HOP-G in sample
3. Anti-complex Ab2-HRP
4. TMB & stop solution

HOP-G ELISA Data: Pyrene Specificity

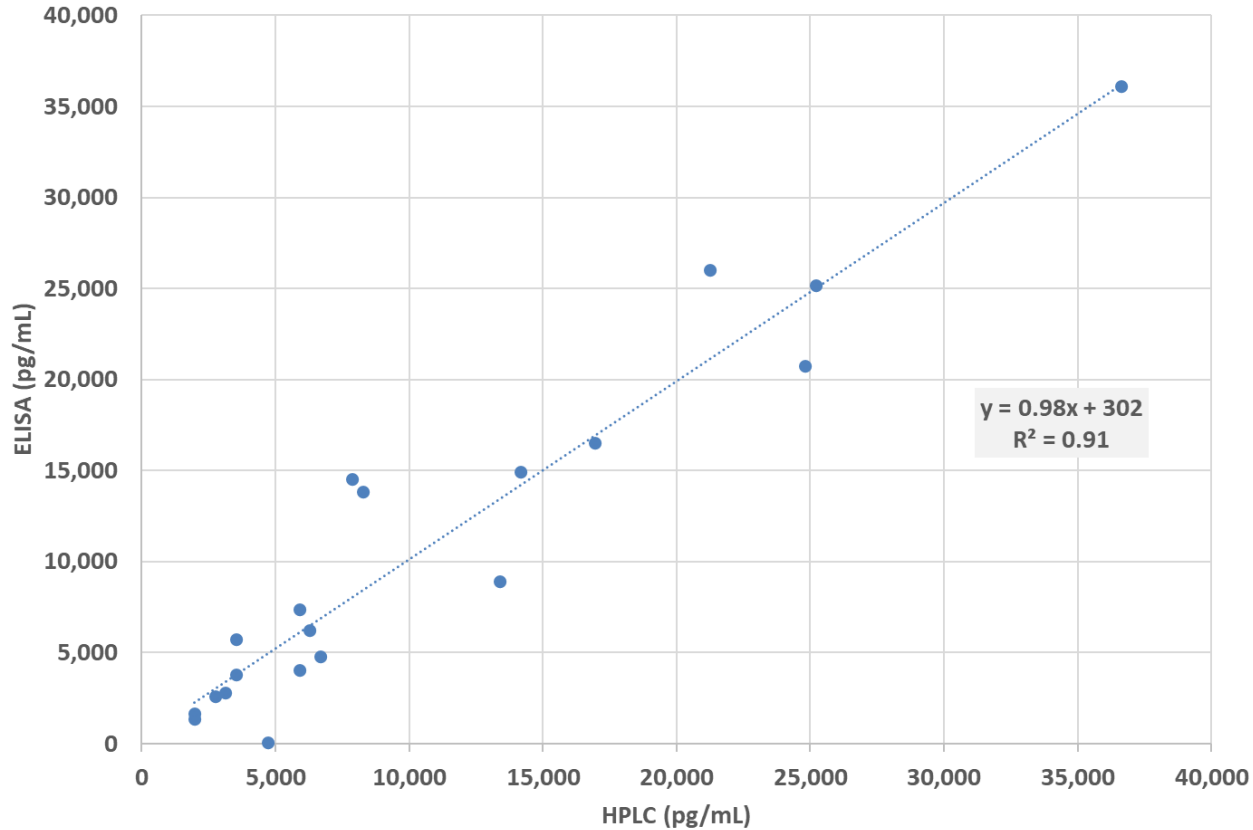


- ELISA is highly specific for HOP-G, the dominant pyrene metabolite in urine
- Only 0.1mL of urine required for duplicates

ELISA Correlation with HPLC Method

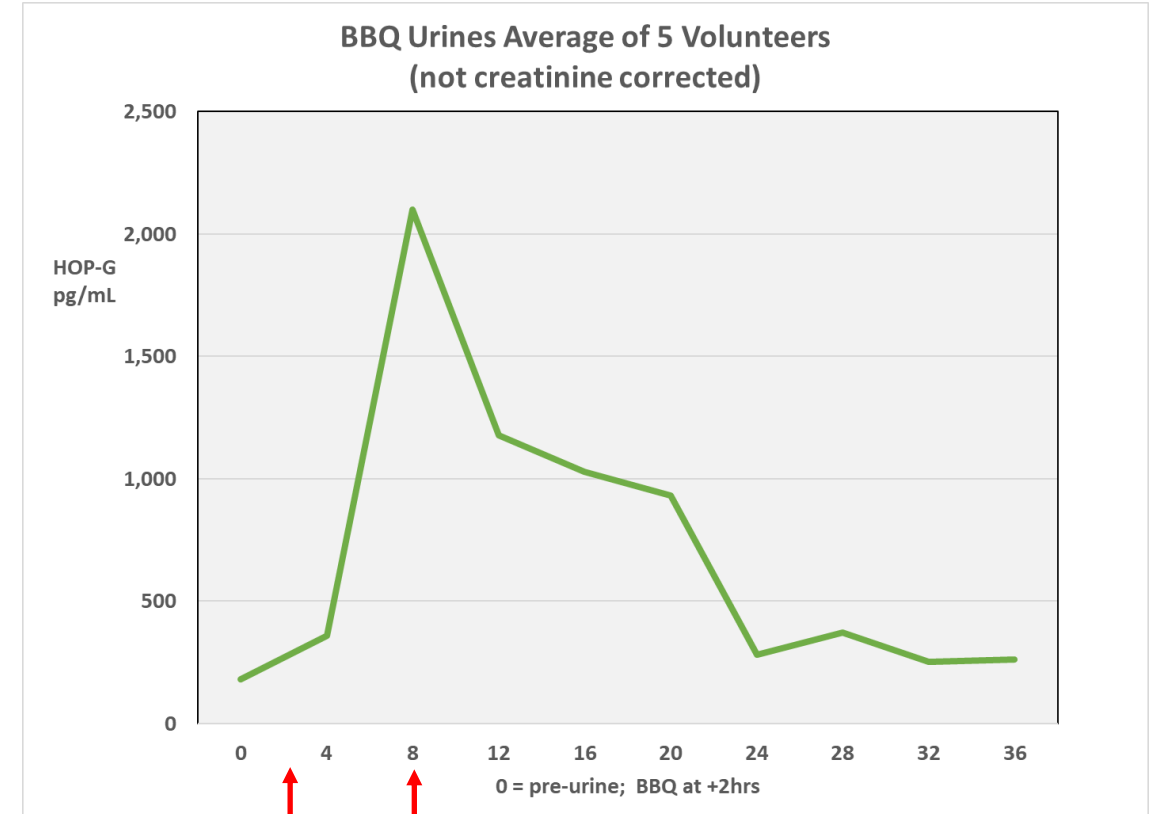
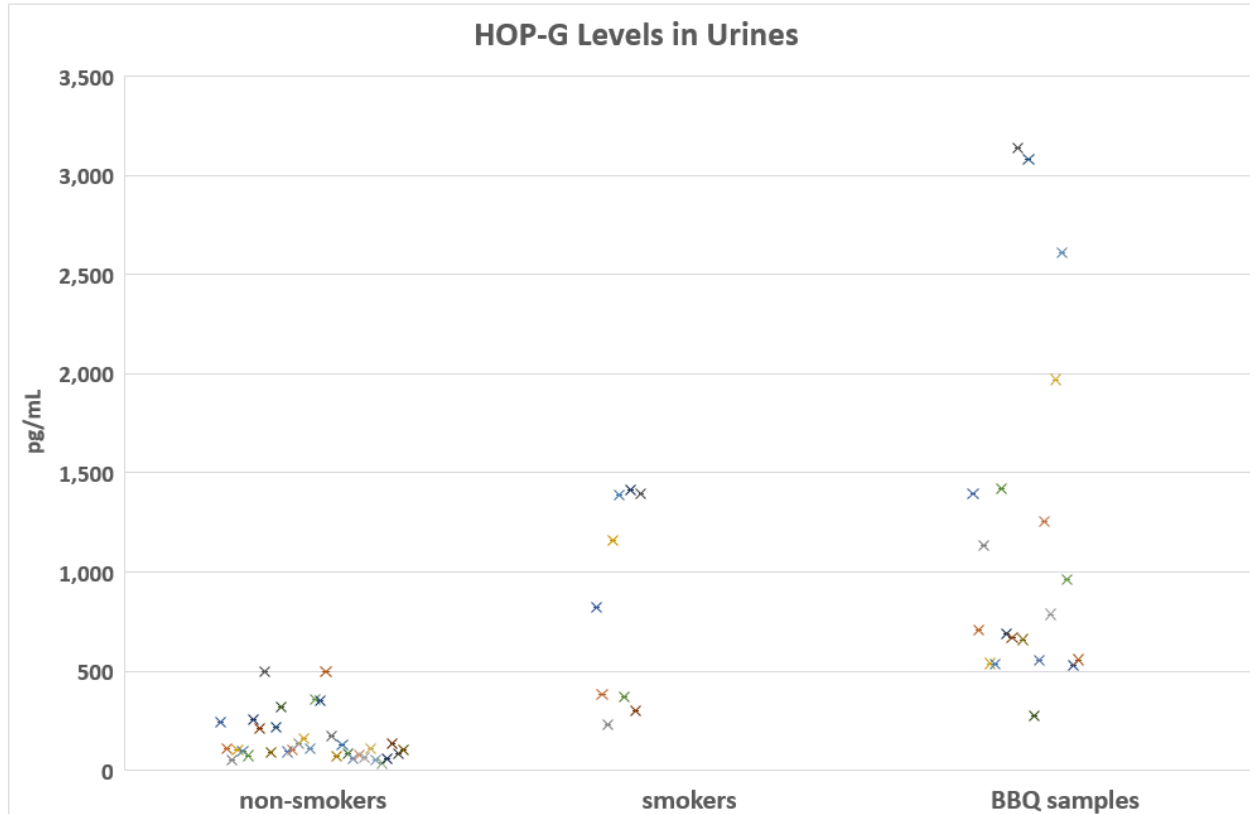


HOP-G ELISA versus HSE/HPLC Data for High Exposure UK Workers



- Analysis of high exposure UK workers
- HPLC data from UK Health & Safety lab, Buxton, UK
- HPLC method reports 1-hydroxy pyrene after hydrolysis. Results have been multiplied by 1.8 (molecular weights: HOP-G = 394; 1-HOP = 218)
- HPLC limit of detection ~1ug/L = 1,000pg/mL

Studies Below the HPLC Limit of Detection



- Unexposed volunteers: 50-500pg/mL
- Smokers: 300-1,500pg/mL
- Consumers of over-cooked BBQ products: 500-3,000pg/mL
- Creatinine correction is recommended

- Levels peak at ~6hrs after food ingestion and subside as expected from published data (Zheng Li et al Chem res tox 13.6.12; CDC 2012)