

## What have you been eating? Improving food intake measurements using biomarkers

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Diet is an important modifiable risk factor for cancer and several foods have been associated with risk of cancer. In most studies, dietary intake is measured using dietary questionnaires which might be limited by a lack of detail or the memory of the participants. Biomarkers of food intake which can be measured in blood or urine have been proposed as a mean to improve intake assessment for foods that are poorly captured by dietary questionnaires. Such biomarkers for processed meat intake are still scarce.

We have conducted a dietary intervention study at IARC in which 12 volunteers consumed different processed and non-processed meat products. Urine and blood samples were collected and analysed using an untargeted metabolomics approach, covering a broad range of small molecule metabolites. We have identified metabolites originating from wood smoke that were specific for the intake of smoked meat and pepper constituents that were specific for the intake of sausages. We could then confirm their association with the diet of a free-living population using samples from the EPIC study.

These promising biomarkers might help to improve the measurement of intake for specific processed meat products and thereby identify meat products that are most strongly associated with colorectal cancer risk.

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