

JOINT EVENT

5th World Conference on **Climate Change**

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London, UK**Environmental Toxicology and Biological Systems****KIM-1 as a promising biomarker of kidney injury for human health risk assessment****Mariana del Carmen Cardenas Gonzalez**

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Chronic kidney disease (CKD) is a serious public health problem with a high prevalence (~13%) worldwide. In addition to the traditional risk factors of CKD, such as diabetes and hypertension, chronic exposure to environmental toxicants can contribute to increasing the predisposition for development and/or progression of CKD. There are some hotspot areas with high prevalence of CKD with unknown etiology (CKDu), where environmental risk factors have been suggested as important triggers of this disease. Early detection is essential for estimating true prevalence and guiding preventive management. Proximal tubule is the main target of environmental toxicants such as heavy metals and pesticides. One of the most sensitive and specific biomarkers for kidney proximal tubular (PT) injury is KIM-1 (Kidney Injury Molecule-1). KIM-1 is a novel non-invasive biomarker able to detect subclinical PT injury in a very sensitive and specific manner. We have investigated KIM-1 performance on detecting PT injury in human populations living in different scenarios of environmental risks and vulnerability. KIM-1 outperforms other kidney injury biomarkers having strong associations with environmental exposures, distinguishing populations that may be more prone to developing CKD. KIM-1 may be a good candidate as a risk stratification biomarker for environmental risk assessment.

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