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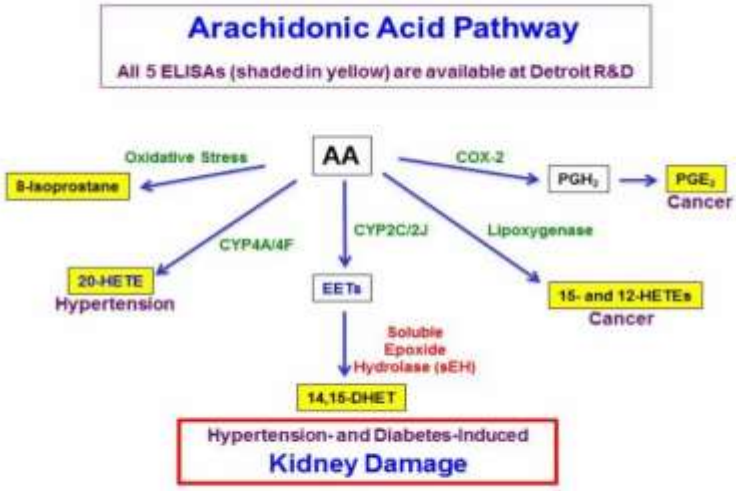
14,15-DHET and Renal Disease

14,15-DHET is a representative metabolite of **soluble epoxide hydrolase** (sEH)-mediated metabolism of EETs, generated by arachidonic acid epoxygenase activity of cytochromes P450 (CYPs) 2C and 2J (**see diagram of AA pathway below**). EETs have been shown to play a beneficial role in the physiological regulation of renal function. Increased activity of soluble epoxide hydrolase that bio-transforms beneficial EET to non-beneficial DHET induces renal damage and diabetic nephropathy[1]. Thus, blood and urinary **14,15-DHET** levels serve as a biomarker of kidney damage.
Recent studies have employed either **soluble epoxide hydrolase** knockout models[2], inhibitors of **sEH** activity[5] or overexpression of CYP2J2[3,4]. These studies all point to the important role of **soluble epoxide hydrolase** generated metabolites in renal function and disease.



References

1. Sporkova, A., et.al. Role of cytochrome P-450 metabolites in the regulation of renal function and blood pressure in 2-kidney 1-clip hypertensive rats. Am. J. Physiol. Regul Integr. Comp. Physiol. 300: R1468-R1475, 2011. PMID 21411763
2. Chen, G., et.al. Genetic disruption of soluble epoxide hydrolase is protective against streptozotocin-induced diabetic nephropathy. Am J. Physiol. Endocrinol. Metab. 303: E563-E575, 2012. PMID 22739108
3. Zhao, G., et.al. Delivery of AAV2-CYP2J2 protects remnant kidney in the 5/6- nephrectomized rat via inhibition of apoptosis and fibrosis. Hum. Gene Ther. 23: 688-689, 2012. PMID 22260463
4. Chen, G., et.al. Cytochrome P450 epoxygenase CYP2J2 attenuates nephropathy in streptozotocin-induced diabetic mice. Prostaglandins & other Lipid Mediators 96: 63-71, 2011. PMID 21742052
5. Eid, S., et. al. 20-HETE and EETs in diabetic nephropathy: A novel mechanistic pathway. PLoS One 8: e70029, 2013. PMID 23936373

Detroit R&D products for studies of renal function and damage

Cat # DH1	BioTarget 14,15-DHET ELISA Kit	$272
Cat # DH2	BioTarget 14,15-EET/DHET ELISA Kit	$272
Cat # P2CR	Polyclonal rabbit anti-P450 2C antibody	$242
Cat # PT2C11	Monoclonal anti-P450 2C11 antibody	$242
Cat # SEH 1	Polyclonal rabbit anti-sEH antibody	$242