Molecular and cellular responses to renal injury : a (phospho)-proteomic approach

Graauw, M. de

LIST OF ABBREVIATIONS

2D	2 dimensional
2D-DIGE	2 dimensional difference gel electrophoresis
Ab	antibody
ADP	adenosine diphosphate
AJ	adherens junction
Anx	annexin
ARF	acute renal failure
Arp	actin-regulatory protein
ATP	adenosine triphosphate
BSA	bovine serum albumin
BMP	bone morphogenis protein
CM	complete medium
DCVC	S-(1,2-dichlorovinyl)-L-cysteine
DIPPL	differential phospho-protein labeling
DMEM	dulbecco's modified eagle's medium
DPPD	diphenyl-p-phenylenediamine
ECD	electron capture dissociation
ECIS	electrical cell substrate impedence sensing
ECM	extra-cellular matrix
EGF(R)	epidermal growth factor (receptor)
EMT	epithelial mesenchymal transition
ETD	electron transfer dissociation
FA	focal adhesion
F-actin	filamentous actin
FAK	focal adhesion kinase
FBS	fetal bovine serum
G6PDH	glucose-6-phosphate dehydrogenase
G-actin	globular actin
GFP	green fluorescent protein
HGF	hepatocyte growth factor
HH	hank's/HEPES
Hsp27	heat shock protein 27
ICAT	isotope coded affinity tag
IMAC	immobilized metal affinity chromatography
IR	ischemia reperfusion
iTRAQ	isobaric tags for quantification
LC	liquid chromatography

MALDI-TOF	matrix assisted laser desorption ionization-time-of-flight
MAPK	Mitogen-activated protein kinase
MDCK	madin darby canine kidney
MS	mass spectrometry
OSOM	outer stripe of the outer medulla
PDGF	platelet-derived growth factor
PI 3K	phosphoinositide 3-kinase
PtdIns(4,5)P2	phosphatidylinositol-4,5-bisphosphate
PTC	proximal tubule cell
pSer	phospho-serine
pThr	phospho-threonine
PTK	protein tyrosine kinase
PTM	post-translational modification
pTyr	phospho-tyrosine
PY	phospho-tyrosine
ROCK	rho kinase
RPTE	renal proximal tubule epithelial
Ser	serine
SH2	src homology 2
shRNA	short hairpin RNA
SILAC	stable isotope labeling with amino acids
TGF	transforming growth factor
Thr	threonine
TJ	tight junction
Tyr	tyrosine
WT	wild-type

LIST OF PUBLICATIONS

Imamdi R., **de Graauw M.**, and van de Water B. Protein kinase C mediates cisplatin-induced loss of adherens junctions followed by apoptosis of renal proximal tubular epithelial cells. *J. Pharmacol. Exp. Ther*. 2004 Dec;311(3), p892-903.

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de Graauw M., Tijdens I., Smeets M.B., ten Klooster JP., Hordijk P.L., Deelder A.M., and van de Water B. Annexin A2 tyrosine phosphorylation induces cell scattering and branching morphogenesis via cofilin activation. *Submitted for publication.*

CURRICULUM VITAE

Marjo de Graauw werd geboren op 7 december 1978 te Gouda. In 1997 behaalde zij haar VWO diploma aan de Goudse Scholen Gemeenschap te Gouda. In september van dat jaar begon zij aan de studie Bio-Farmaceutische Wetenschappen aan de Universiteit van Leiden waar zij in 1998 het propaedeutisch diploma verkreeg. Tijdens de doctoraal-fase heeft zij bij de vakgroep Toxicologie van het Leiden/Amsterdam Center for Drug Research (LACDR) onderzoek verricht naar de rol van de fosfatase PTEN in niercel apoptose en heeft zij onder supervisie van J.F. Timms bij het Ludwig Institute for Cancer Research in Londen met behulp van verschillende proteomic technieken onderzoek gedaan naar veranderde eiwit expressie en fosforylering tijdens niercel apoptose. In december 2001 behaalde zij haar doctoraal diploma. Van januari 2002 tot mei 2006 werkte zij als assistent in opleiding (aio) aan het in dit proefschrift beschreven onderzoek dat werd uitgevoerd bij de vakgroep Toxicologie van het LACDR in Leiden onder leiding van Prof. Dr. B. Van de Water. Dit onderzoek werd gesubsidieerd door NWO. In 2005 ontving zij de prijs voor de beste presentatie tijdens de Nederlandse aio competitie in Groningen en de prijs voor het beste onderzoek tijdens de FEBS cytoskeleton research conference in Luxemburg. In 2006 ontving zij de prijs voor de beste poster tijdens de LACDR aio competitie in Amsterdam en de prijs voor de beste presentatie tijdens de Nederlanse Nefrologie dagen. Zij zet op dit moment haar onderzoek aan Annexin A2 voort als post-doc bij de vakgroep Toxicologie en is tevens werkzaam als redacteur van een boek over fosfo-proteomics uit de Methods of Molecular Biology serie van Humana Press.

CURRICULUM VITAE

Marjo de Graauw was born on December 7th 1978 in Gouda. In 1997 she completed her high-school diploma at the 'Goudse Scholen Gemeenschap' in Gouda. In the same year she started her Bio-pharmaceutical Sciences education at Leiden University. During this period she performed an internship at the Division of Toxicology, Leiden University during which the role of the phosphatase PTEN in renal cell apoptosis was studied and she completed a research project on (phospho)-proteomic analysis of toxicant-induced apoptosis at the Ludwig Institute for Cancer Research (LICR) in London under supervision of Dr. J.F. Timms. In December 2001 she graduated and in January 2002 she started her Ph.D. project at the Division of Toxicology (Leiden/Amsterdam Center for Drug Research, Leiden University) under supervision of Prof. Dr. B. van de Water. This project was funded by the Dutch Science Organization (NWO) and involved phospho-proteomic based identification of tyrosine phosphorylated proteins in renal injury and regeneration as described in this thesis. In 2005 she was rewarded with a prize for best presentation during the Dutch national Ph.D. competition and a prize for best research project during the FEBS cytoskeleton research conference in Luxemburg. In 2006 she was awarded a best poster prize during the LACDR Ph.D. competition in Amsterdam and best presentation prize during the Dutch Nephrology conference. She is currently pursuing her work on Annexin A2 as a post-doc at the Division of Toxicology and is editor of a book on phospho-proteomics in the Methods of Molecular Biology series of Humana Press.


VOOR IEDEREEN DIE
ZIJN OF HAAR LIEVE MANIER
HEEFT BIJGEDRAGEN
BEDANKT!