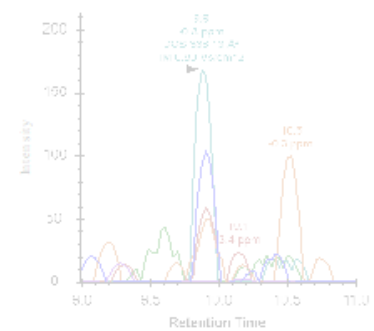
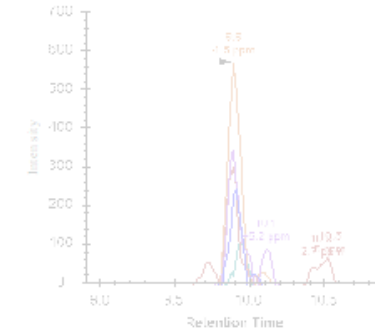
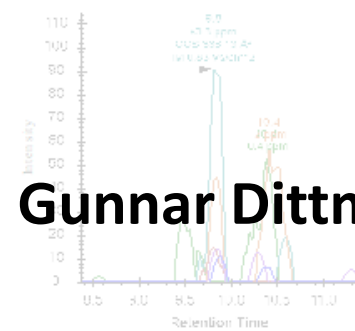
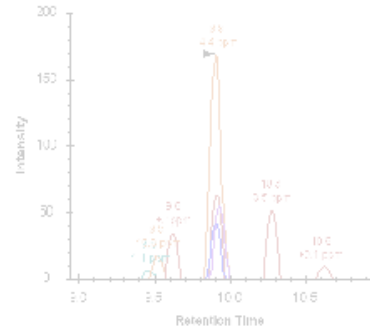
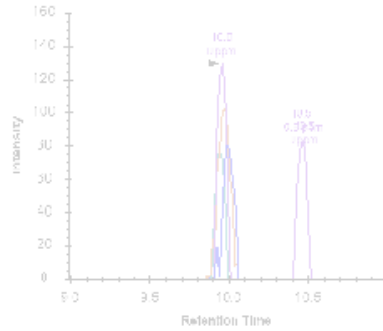


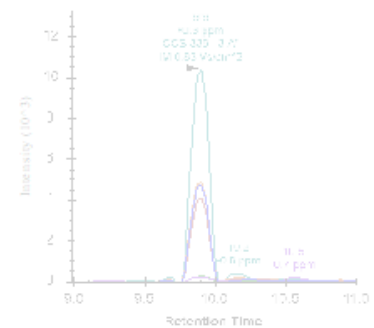
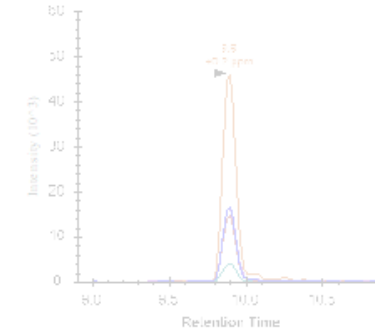
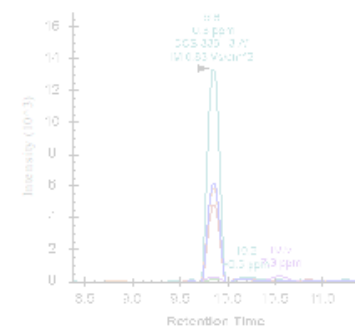
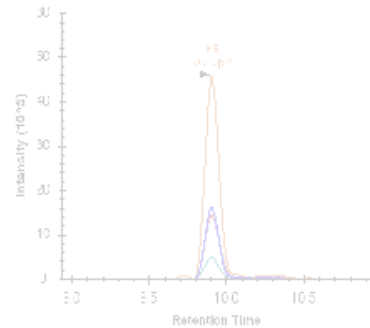
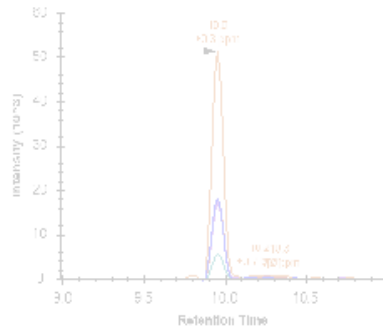
Quantification of 782 Plasma Peptides by Multiplexed Targeted Proteomics

Gunnar Dittmar

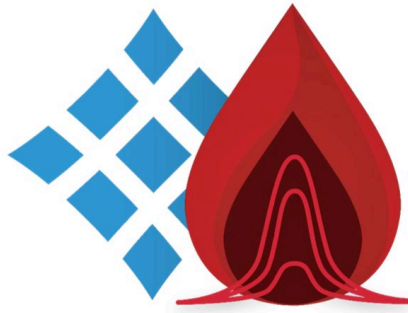
endogenous



AQUAstandard



Reference peptides for 500 serum proteins



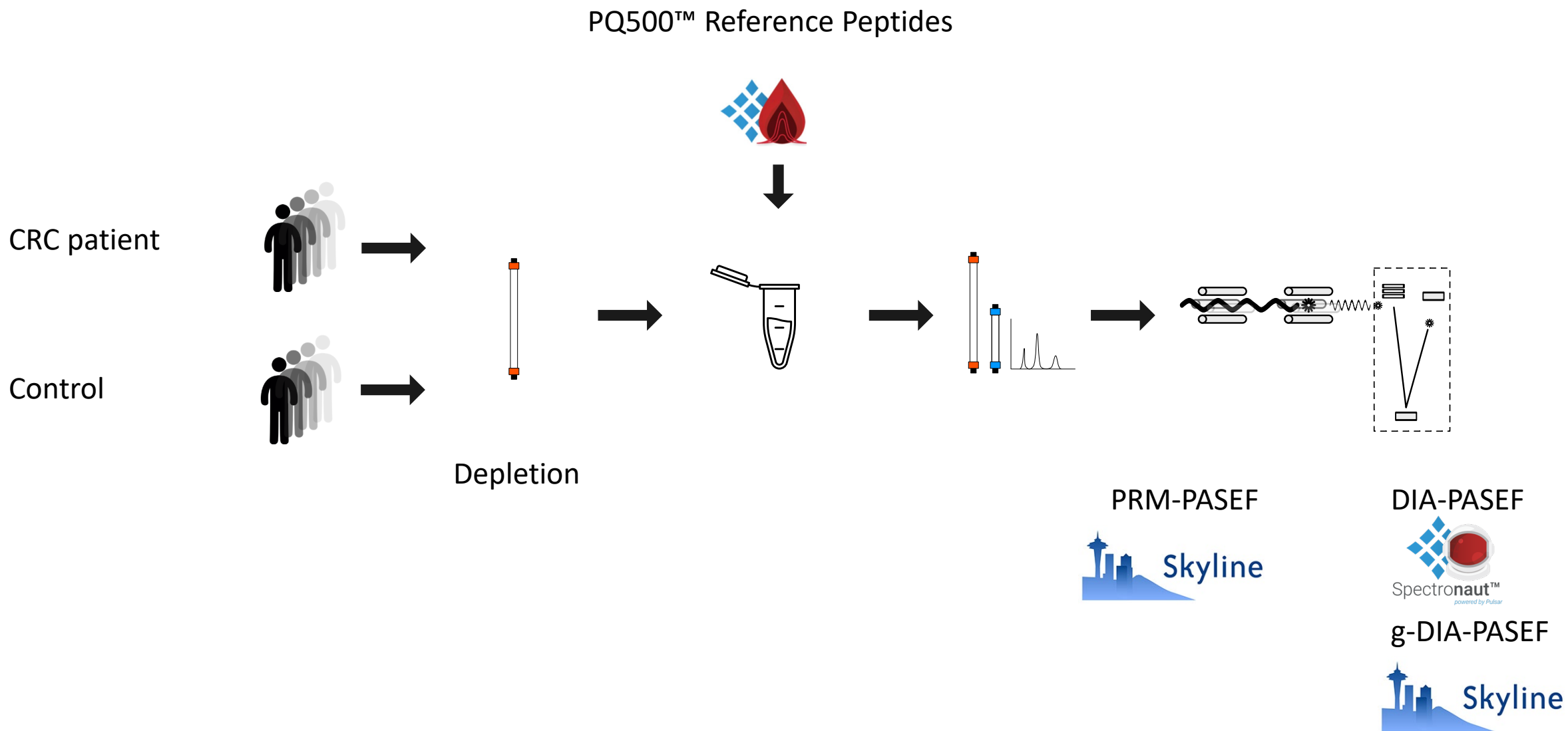
PQ500™ Reference Peptides Kit



>800 AQUA peptides targeting 500 proteins

First Edition, Version 1.00		April 2018	
G3P_HUMAN	P04406	Glyceraldehyde-3-phosphate dehydrogenase (GAPDH)	
G6PE_HUMAN	O95479	GDH/6PGL endoplasmic bifunctional protein	
G6PI			
GAN			
GAP			
First Edition, Version 1.00		April 2018	
GAS6			
GDIR	HSP76_HUMAN	P17066	Heat shock 70 kDa protein 6
GELS	HSP7C_HUMAN	P11142	Heat shock cognate 71 kDa protein (LAP-1)
GFAF	HSP7E_HUMAN	Q0VDF9	Heat shock 70 kDa protein 14 (Heat shock protein HSP60)
GGH	HSPB1_HUMAN	P04792	Heat shock protein beta-1 (HspB1)
GIP	HXK1_HUMAN	P19367	Hexokinase-1 (HK I)
GNP	HYAL1_HUMAN	Q12794	Hyaluronidase-1 (Lung carcinoma protein 1)
GP1E	HYOU1_HUMAN	Q9Y4L1	Hypoxia up-regulated protein 1
GPV	I18BP_HUMAN	O95998	Interleukin-18-binding protein (IL-18BP)
GPX3	IBP2_HUMAN	P18065	Insulin-like growth factor-binding protein 2 (IGFBP-2)
GRP7	IBP3_HUMAN	P17936	Insulin-like growth factor-binding protein 3 (IGFBP-3)
GRP7	IBP4_HUMAN	P22692	Insulin-like growth factor-binding protein 4 (IGFBP-4)
GSG	IBP5_HUMAN	P24593	Insulin-like growth factor-binding protein 5 (IGFBP-5)
GSTC	IBP6_HUMAN	P24592	Insulin-like growth factor-binding protein 6 (IGFBP-6)
HAB	IBP7_HUMAN	Q16270	Insulin-like growth factor-binding protein 7 (IGFBP-7; TAF)
HBA	IC1_HUMAN	P05155	Plasma protease C1 inhibitor (Serpine G1)
HBB	ICAM1_HUMAN	P05362	Intercellular adhesion molecule 1 (ICAM-1; CD antigen CD54)
HBD			
HBE	ICAM2_HUMAN	P13598	Intercellular adhesion molecule 2 (ICAM-2; CD antigen CD102)
HBM	ICOSL_HUMAN	O75144	ICOS ligand (CD antigen CD275)
HCF	IDHC_HUMAN	O75874	Isocitrate dehydrogenase cytoplasmic (IDH)
HEG	IGA2_HUMAN	P0DOX2	Immunoglobulin alpha-2 heavy chain
HEM	IGD_HUMAN	P0DOX3	Immunoglobulin delta heavy chain
HEM	IGE_HUMAN	P0DOX4	Immunoglobulin epsilon heavy chain
HEP2	IGF1_HUMAN	P05019	Insulin-like growth factor I (IGF-I)
HGF	IGF2_HUMAN	P01344	Insulin-like growth factor II (IGF-II)
HGF	IGG1_HUMAN	P0DOX5	Immunoglobulin gamma-1 heavy chain
HOR	IGHA1_HUMAN	P01876	Immunoglobulin heavy constant alpha 1
HPT			

Workflow



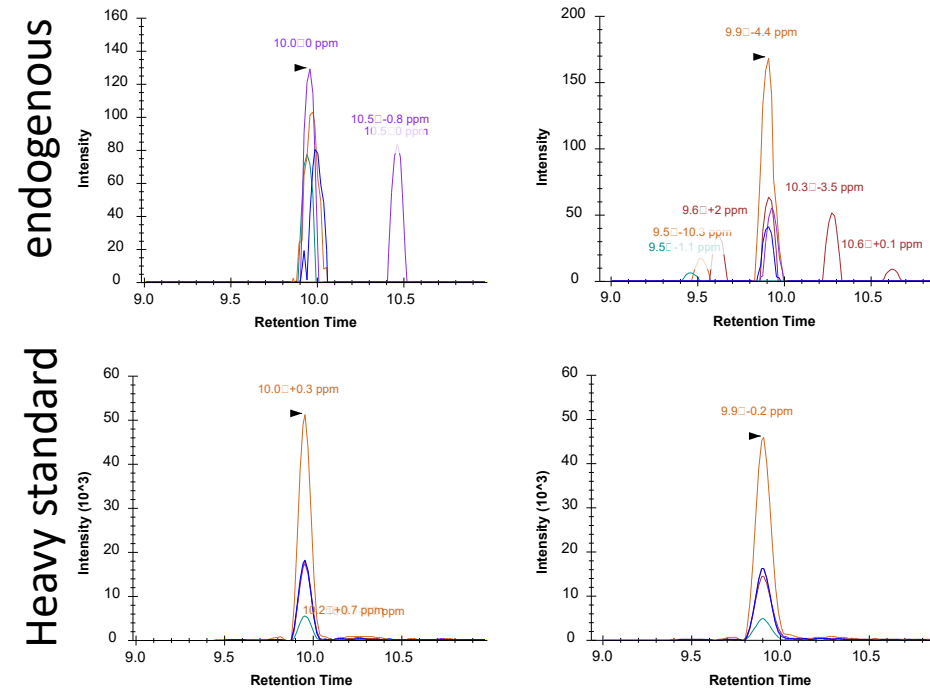
Manual curation of the quantifications using Skyline



CD99; NANAEPVQR

Dotproduct: 0.864

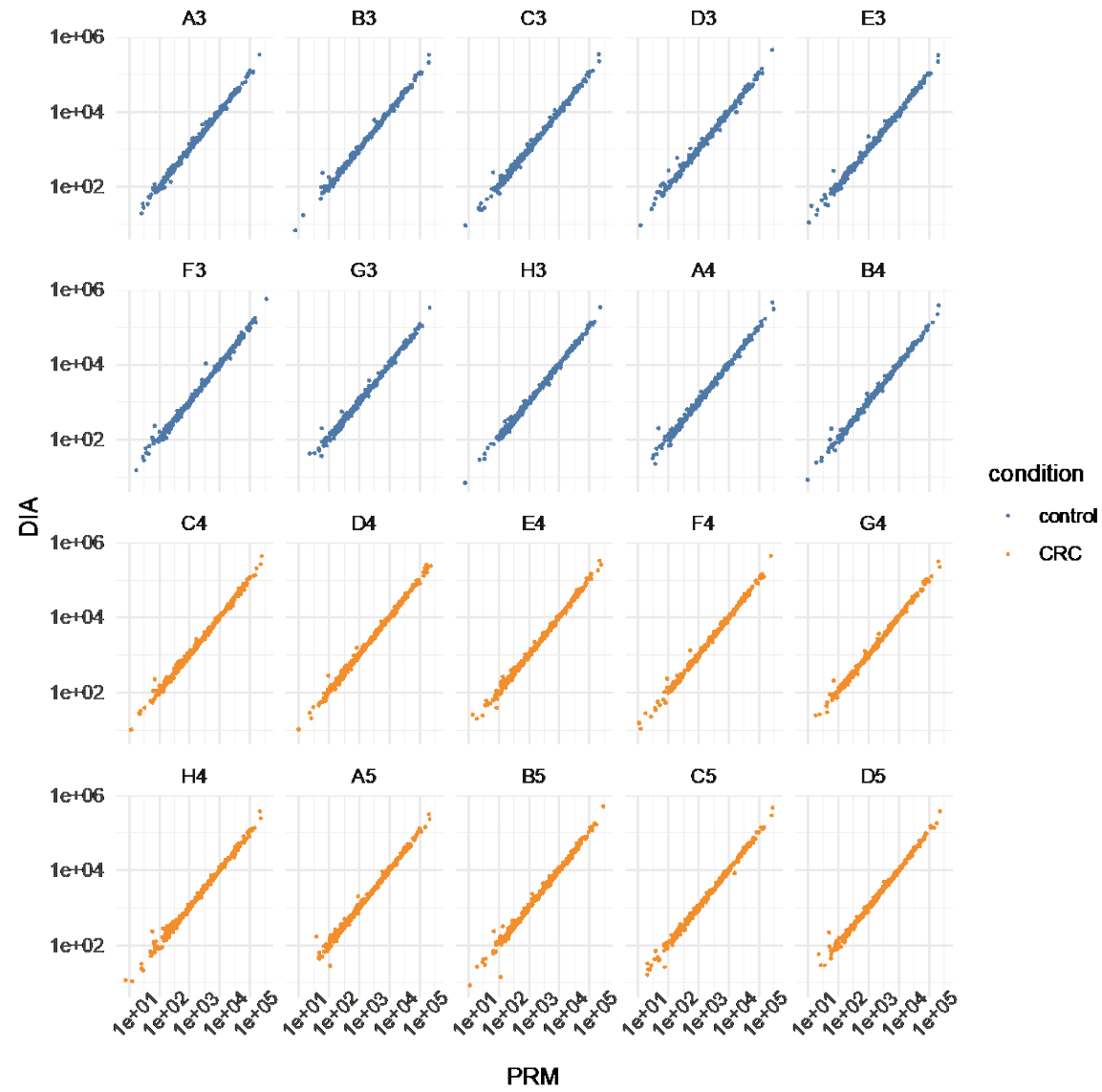
Dotproduct: 0.987



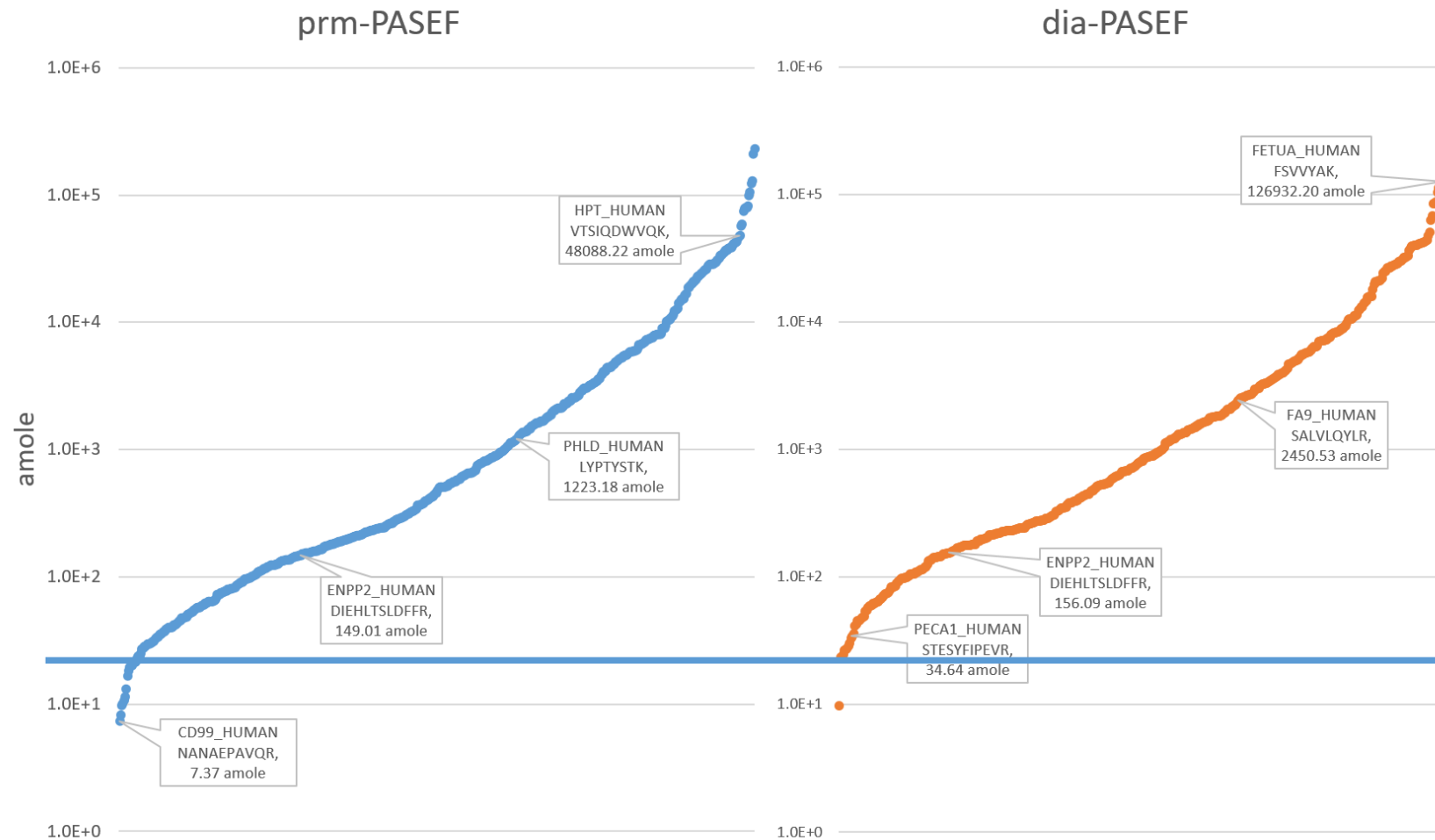
No detection

7.41 amole

Correlation between DIA and PRM samples



DIA and PRM quantification





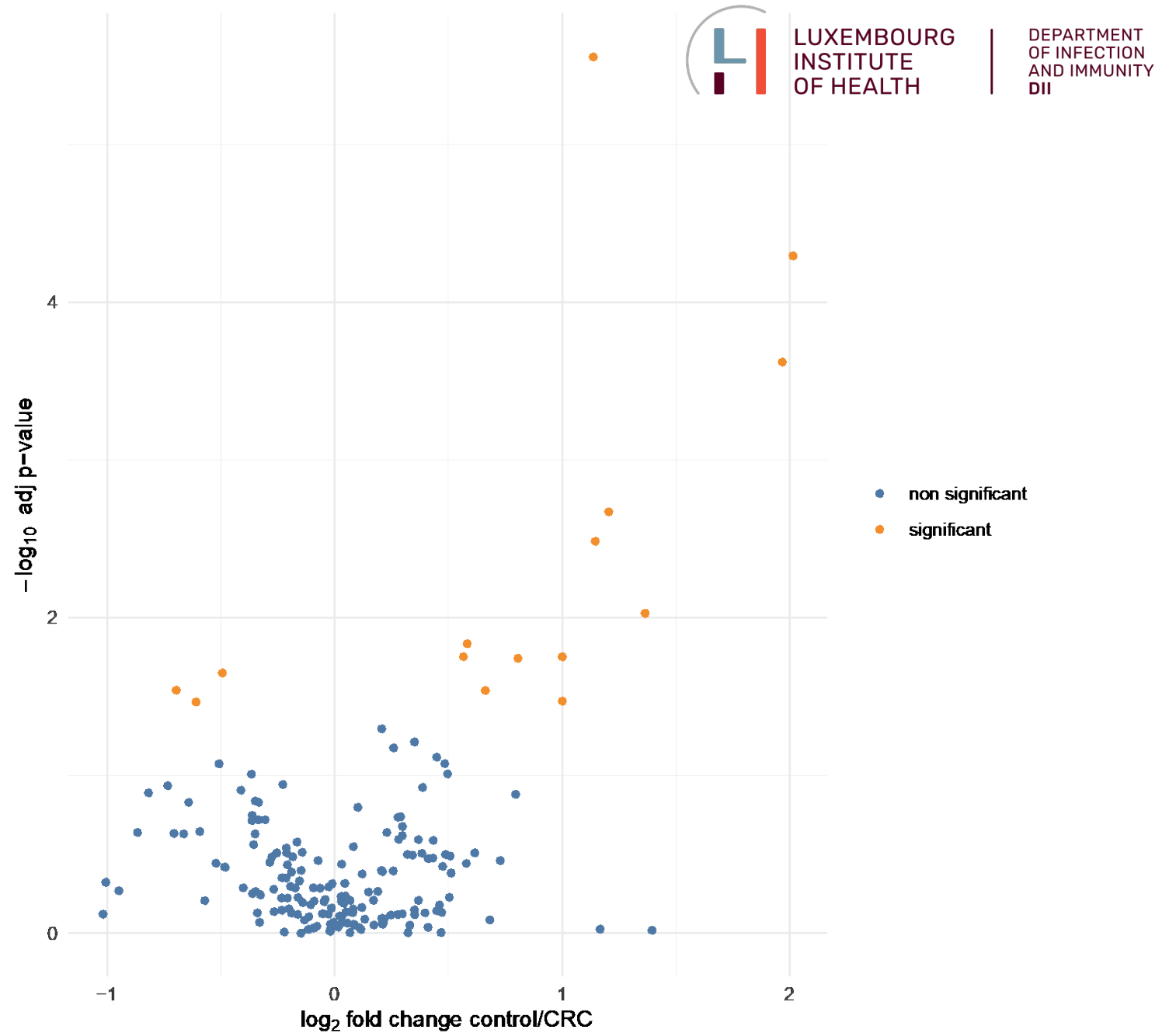
LUXEMBOURG
INSTITUTE
OF HEALTH

DEPARTMENT
OF INFECTION
AND IMMUNITY
DII

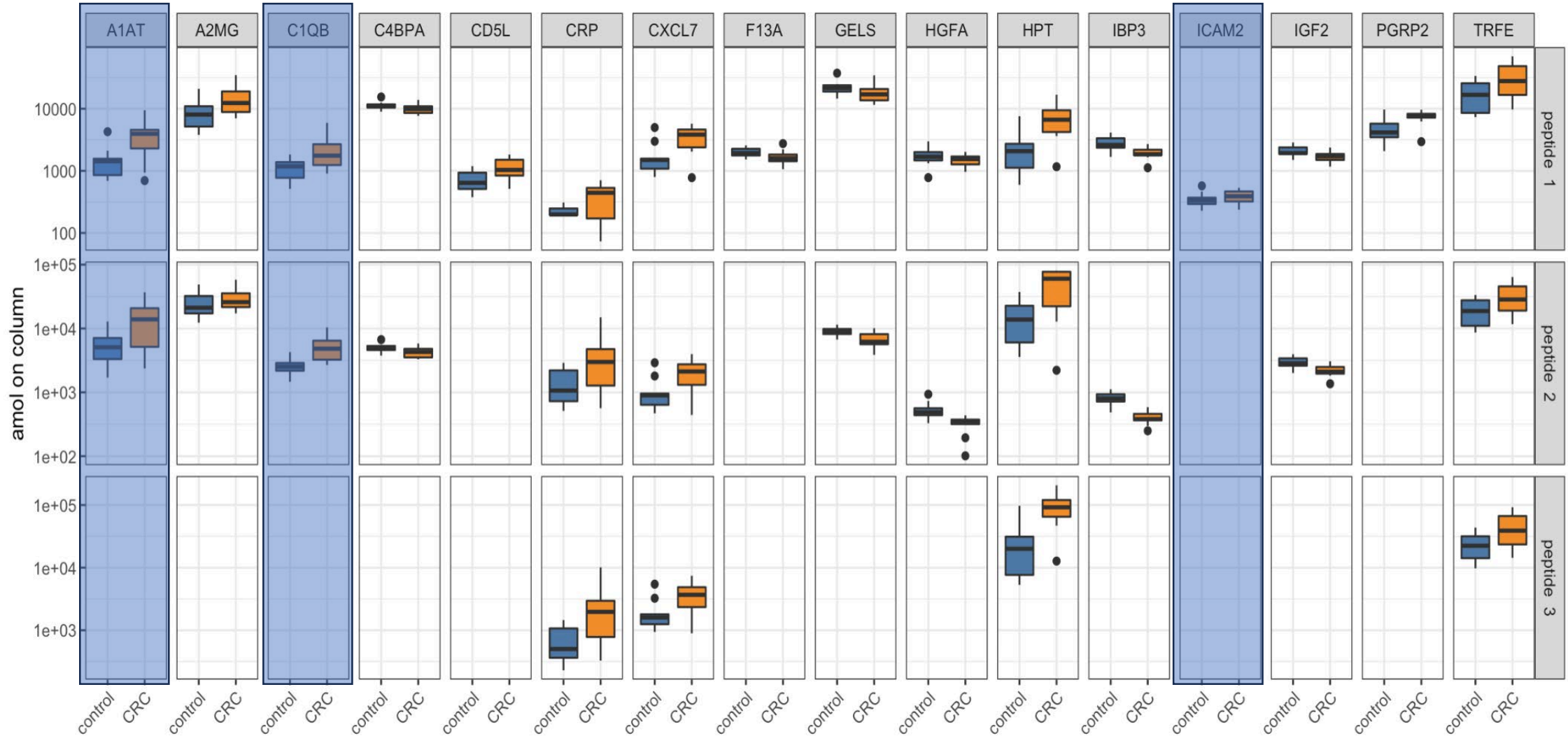
Application to CRC cohort

Luxembourgish colon carcinoma cohort

Significantly regulated CRC-associated proteins

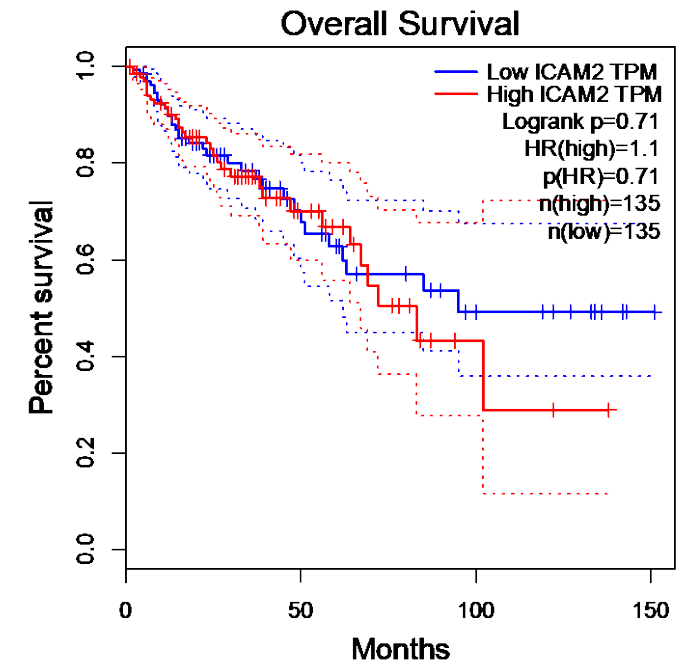
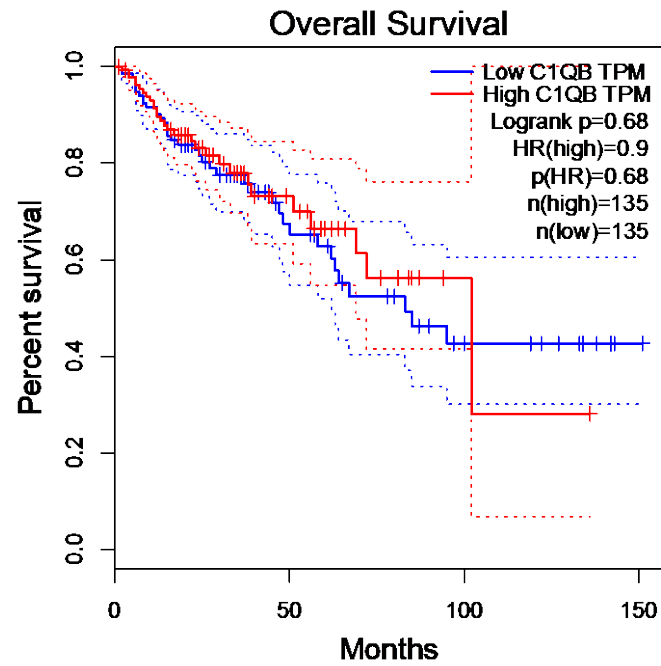
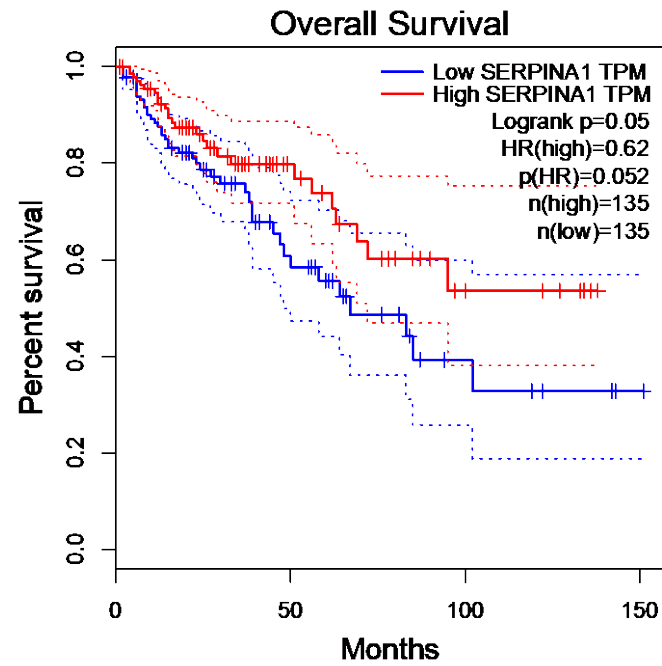


Significantly regulated CRC-associated proteins






Top CRP associated gene



Summary

- Development of the new PRM-PASEF method
- Highly multiplex analysis of more than 780 peptides in serum
- PRM-PASEF and DIA-PASEF data analyzed with skyline  Skyline
- PRM-PASEF and DIA-PASEF perform on a similar level
- Identification of 16 CRC-associated proteins



Luxembourg Institute of Health

Antoine Lesur
Francois Bernadin



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Bruker

Pierre-Oliver Schmit
Gary Kruppa



University of Luxembourg

Elisabeth Letellier
Eric Koncina

