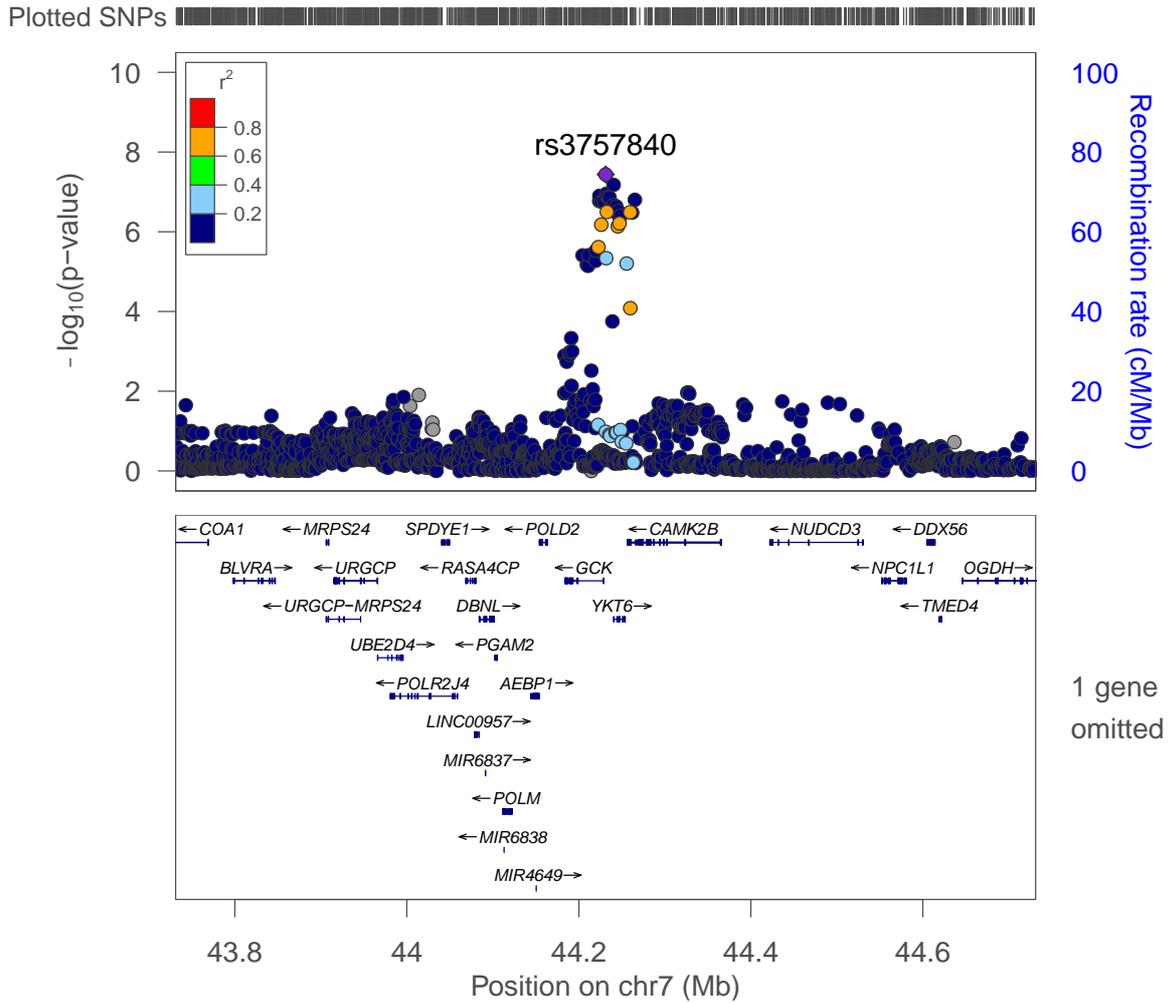


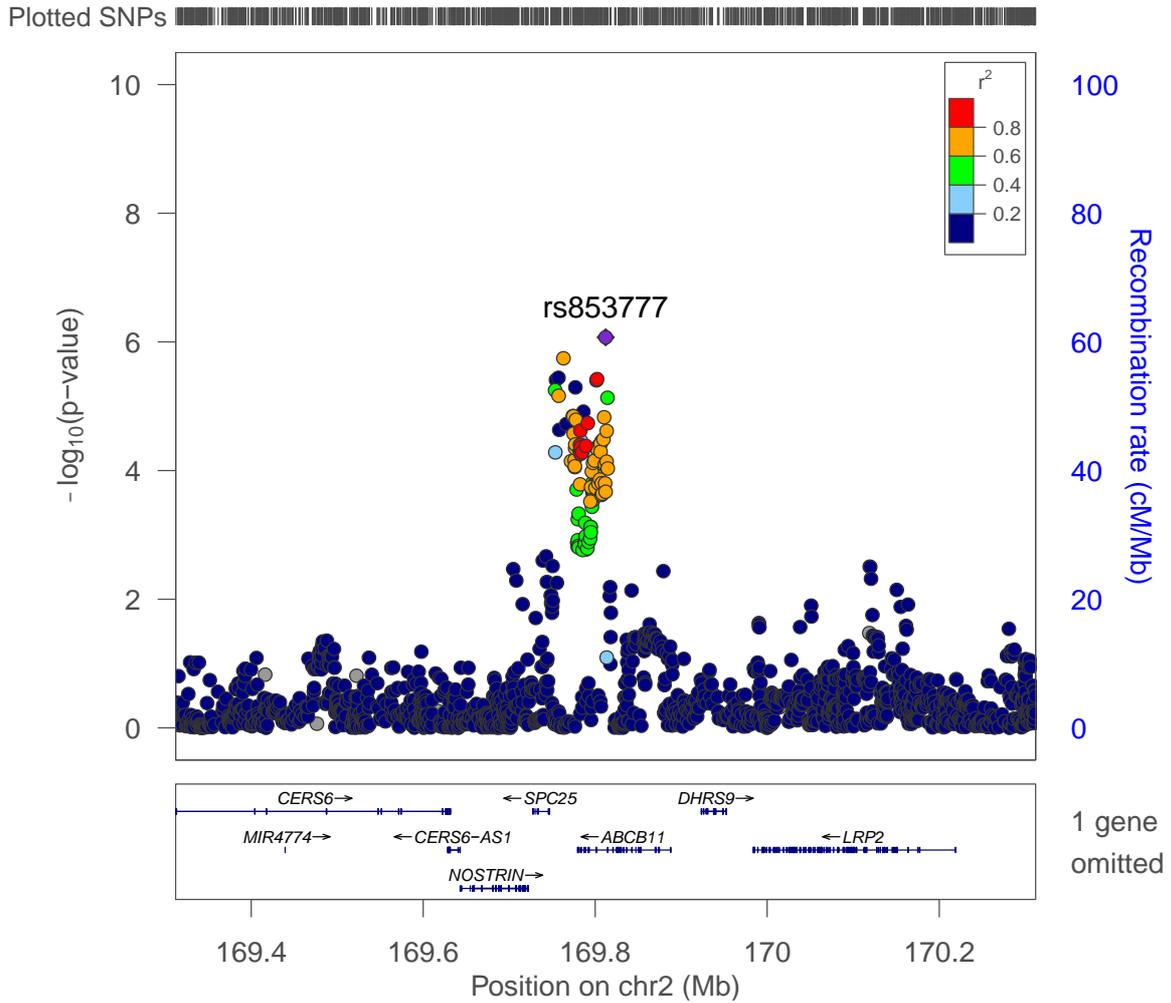
**Supplementary Figure 1: Manhattan plot of fructosamine meta-analysis.** Blue horizontal line represents a p-value of  $1 \times 10^{-5}$ . Red line represents genome-wide significant threshold ( $5 \times 10^{-8}$ ). Lead SNPs of genome-wide significant loci highlighted.

# GCK locus



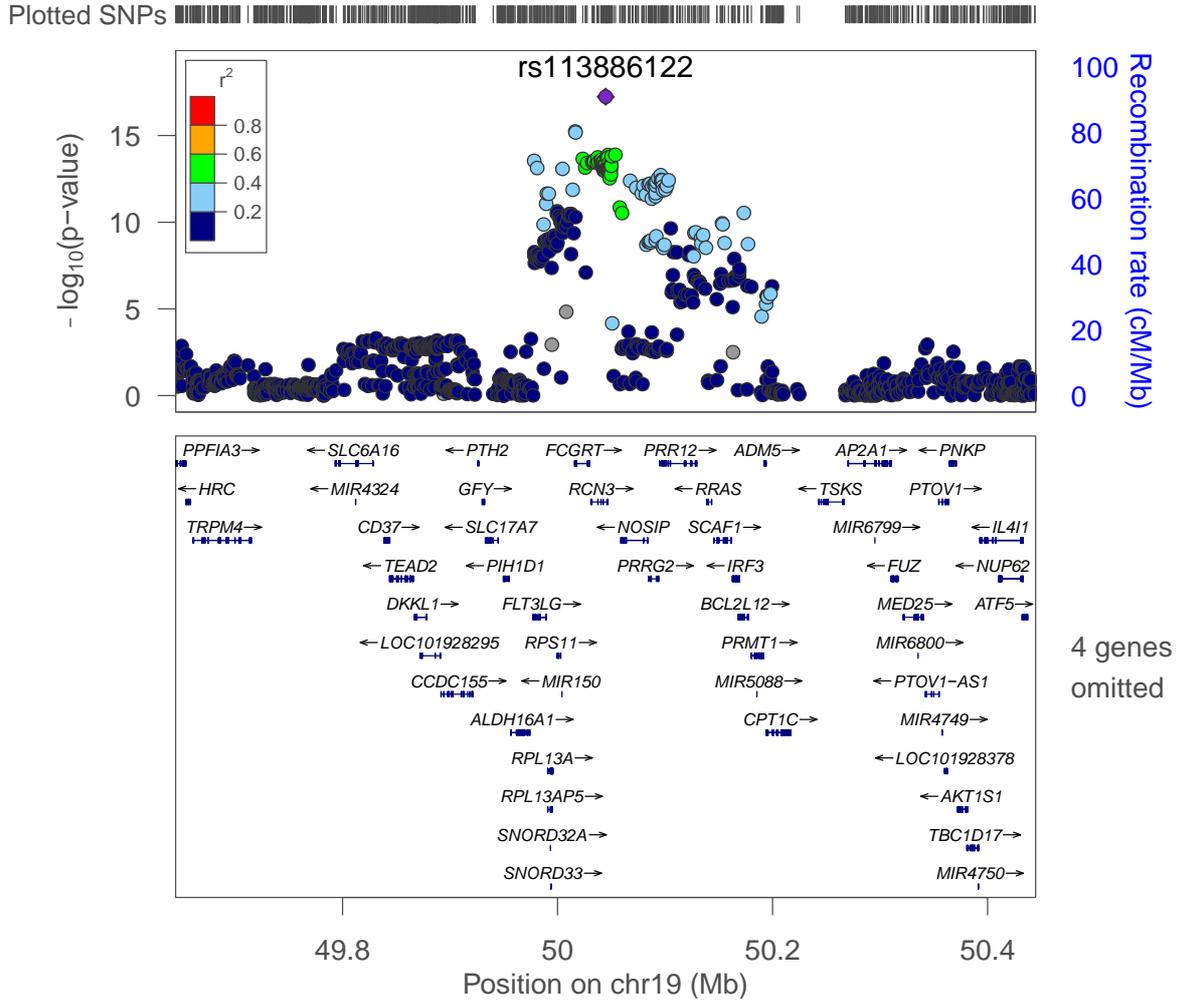
**Supplementary Figure 2: Locus zoom plot for GCK locus.**

# ABCB11 locus

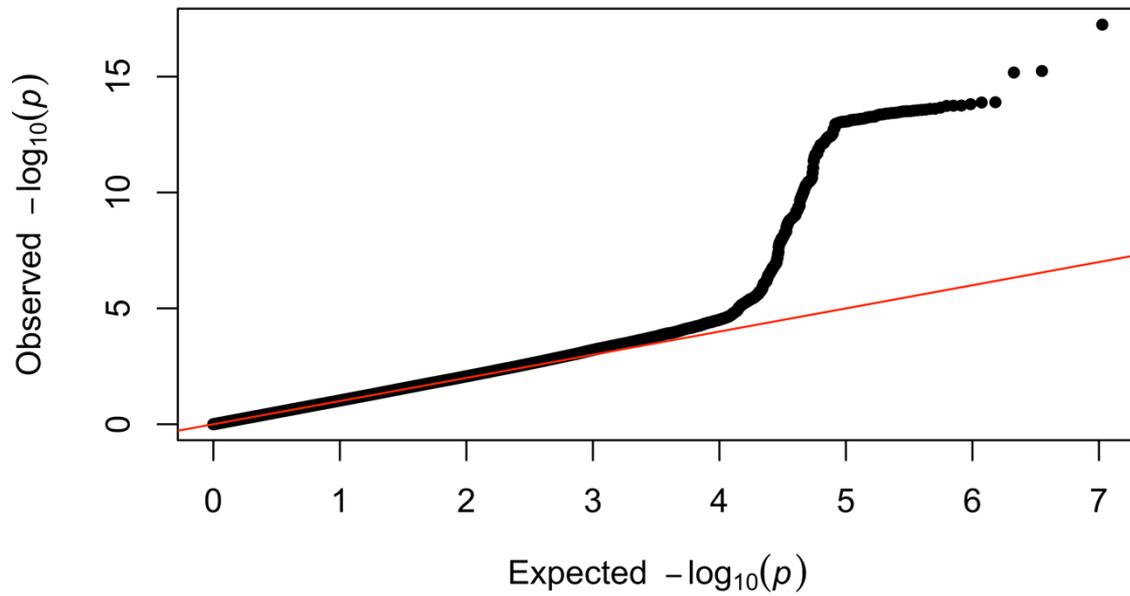


**Supplementary Figure 3: Locus zoom plot for ABCB11 locus.**

# RCN3 locus



Supplementary Figure 4: Locus zoom plot for RCN3 locus.



Supplementary Figure 5: QQ plot for fructosamine meta-analysis.

Trait	PMID	Category	ethnicity	rg	se	z	p
Waist-to-hip ratio	25673412	anthropometric	European	-0.2943	0.0794	-3.7074	0.0002
Waist circumference	25673412	anthropometric	European	-0.3197	0.0898	-3.5603	0.0004
Obesity class 1	23563607	anthropometric	European	-0.285	0.0828	-3.4441	0.0006
Body fat	26833246	anthropometric	Mixed	-0.3174	0.0942	-3.3708	0.0007
Obesity class 2	23563607	anthropometric	European	-0.2747	0.0965	-2.8458	0.0044
Body mass index	20935630	anthropometric	European	-0.2458	0.0871	-2.8226	0.0048
HOMA-B	20081858	glycemic	European	-0.4426	0.1673	-2.645	0.0082
Overweight	23563607	anthropometric	European	-0.2267	0.088	-2.5755	0.01
eGFR based on serum creatinine	26831199	kidney	Mixed	-0.2351	0.094	-2.5026	0.0123
eGFR based on serum creatinine (non-diabetes)	26831199	kidney	Mixed	-0.2264	0.0976	-2.32	0.0203
Platelet count	22139419	haematological	European	-0.2329	0.1034	-2.2518	0.0243
Chronic Kidney Disease	26831199	kidney	Mixed	0.399	0.1927	2.07	0.0385
Hip circumference	25673412	anthropometric	European	-0.1838	0.0927	-1.9825	0.0474
Obesity class 3	23563607	anthropometric	European	-0.2428	0.126	-1.9272	0.054
Extreme bmi	23563607	anthropometric	European	-0.2067	0.1099	-1.8818	0.0599
Fasting glucose main effect	22581228	glycemic	European	0.2457	0.1323	1.8565	0.0634
Extreme height	23563607	anthropometric	European	0.1432	0.0859	1.6657	0.0958
Infant head circumference	22504419	anthropometric	European	0.2753	0.1699	1.6203	0.1052
Fasting insulin main effect	22581228	glycemic	European	-0.2377	0.1548	-1.536	0.1245

Sitting height ratio	25865494	anthropometric	European	0.1896	0.1405	1.3495	0.1772
2hr glucose adjusted for BMI	20081857	glycemic	European	-0.2933	0.2201	-1.3328	0.1826
Fasting proinsulin	20081858	glycemic	European	-0.2306	0.1765	-1.3069	0.1913
Height_2010	20881960	anthropometric	European	0.0895	0.0685	1.3058	0.1916
Child birth length	25281659	anthropometric	European	0.204	0.1565	1.3041	0.1922
Extreme waist-to-hip ratio	23563607	anthropometric	European	-0.2041	0.1591	-1.2826	0.1996
Type 2 Diabetes	22885922	glycemic	European	0.1446	0.1291	1.1204	0.2625
HOMA-IR	20081858	glycemic	European	-0.2166	0.1995	-1.0856	0.2776
Heart rate	23583979	haematological	Mixed	-0.1026	0.1128	-0.9098	0.3629
Birth weight	27680694	anthropometric	European	0.0639	0.0869	0.7347	0.4625
HbA1C	20858683	glycemic	European	0.0939	0.1613	0.5825	0.5602
Serum cystatin c	26831199	kidney	Mixed	0.05	0.1144	0.437	0.6621
Height; Females at age 10 and males at age 12	23449627	anthropometric	European	0.0397	0.1234	0.322	0.7474
Child birth weight	23202124	anthropometric	European	0.0455	0.1489	0.3053	0.7601
Difference in height between childhood and adulthood; age 8	23449627	anthropometric	European	0.0345	0.1437	0.2403	0.8101
Urinary albumin-to-creatinine ratio (non-diabetes)	26631737	kidney	European	-0.0248	0.1714	-0.1447	0.8849
Mean platelet volume	22139419	haematological	European	0.0154	0.1078	0.1426	0.8866
Urinary albumin-to-creatinine ratio	26631737	kidney	European	0.0211	0.1592	0.1325	0.8946
Difference in height between adolescence and adulthood; age 14	23449627	anthropometric	European	0.0153	0.1711	0.0896	0.9286
Childhood obesity	22484627	anthropometric	European	-0.0047	0.1172	-0.04	0.9681

**Supplementary Table 1: Genetic correlation results for fructosamine meta-analysis.**  
rg=genetic correlation estimate. se=standard error of estimate. z=z score. p=p-value.

eQTL	Posterior probability
SNRNP70	0.02091
LIN7B	0.010718017
C19orf73	0.014784497
PPFIA3	0.013961669
HRC	0.015488361
TRPM4	0.000623167
SLC6A16	6.69E-05
CD37	8.91E-06
TEAD2	0.000385792
SLC17A7	0.018770708
PIH1D1	0.020056163
ALDH16A1	1.06E-12
FLT3LG	0.021009203
RPL13A	0.014670253
RPS11	0.009310853
hsa-mir-150	0.01548654
FCGRT	0.977157882

<b>RCN3</b>	0.629436415
<b>NOSIP</b>	0.016954363
<b>PRRG2</b>	0.013823592
<b>PRR12</b>	0.114863225
<b>RRAS</b>	0.022434557
<b>SCAF1</b>	0.021890013
<b>IRF3</b>	0.022896502
<b>BCL2L12</b>	0.017701827
<b>PRMT1</b>	0.015474111
<b>ADM5</b>	0.014415826
<b>CPT1C</b>	0.575995001
<b>TSKS</b>	0.000108332
<b>AP2A1</b>	0.02184052
<b>FUZ</b>	0.020351908
<b>MED25</b>	0.016222586
<b>PTOV1</b>	0.000157996
<b>PNKP</b>	5.18E-13
<b>AKT1S1</b>	0.01395365
<b>TBC1D17</b>	0.014229038
<b>IL4I1</b>	0.010720632
<b>NUP62</b>	0.012523085
<b>ATF5</b>	0.025055285
<b>SIGLEC11</b>	4.43E-13
<b>VRK3</b>	0.012189455
<b>ZNF473</b>	0.000175039

**Supplementary Table 2: Coloc results for RCN3 locus.**