

Tox functions identified by Ingenuity Pathway Analysis using the 36 yellow module genes correlated with microbiota encroachment and Adipo-IR.

Categories	Diseases or Functions Annotation	p-value	Molecules	# Molecules
Cardiac Dysfunction	Dysfunction of heart	0.000148	ANXA2,B4GALT1,CLTB,FHL2,PPARD,TPM4	6
Cardiac Dysfunction	Calcification of aortic valve	0.000665	ANXA2,B4GALT1,CLTB,TPM4	4
Cardiac Dysfunction	Left ventricular dysfunction	0.000764	ANXA2,B4GALT1,CLTB,FHL2,TPM4	5
Renal Damage	Injury of outer medulla	0.00124	PPARD	1
Liver Steatosis	Hepatic steatosis	0.00135	AGPAT2,PLIN3,PPARD,SLC27A4,UPP1	5
Cardiac Enlargement	Enlargement of cardiomyocytes	0.0019	DUSP5,FHL2,PPARD	3
Liver Proliferation	Expansion of oval cells	0.00247	TNFRSF12A	1
Renal Damage	Injury of renal cortex	0.00247	PPARD	1
Pulmonary Hypertension	New York Heart Association class IV primary pulmonary hypertension	0.0037	PPARD	1
Pulmonary Hypertension	Pulmonary hypertension WHO functional class IV chronic thromboembol	0.0037	PPARD	1

	ic pulmonary hypertension			
Pulmonary Hypertension	New York Heart Association class III heritable pulmonary artery hypertension	0.0037	PPARD	1
Pulmonary Hypertension	WHO functional class I pulmonary arterial hypertension	0.0037	PPARD	1
Pulmonary Hypertension	New York Heart Association class IV heritable pulmonary artery hypertension	0.0037	PPARD	1
Pulmonary Hypertension	New York Heart Association class II primary pulmonary hypertension	0.0037	PPARD	1
Pulmonary Hypertension	Pulmonary hypertension WHO functional class III chronic thromboembol	0.0037	PPARD	1

	ic pulmonary hypertension			
Pulmonary Hypertension	New York Heart Association class II heritable pulmonary artery hypertension	0.0037	PPARD	1
Pulmonary Hypertension	New York Heart Association class III primary pulmonary hypertension	0.00494	PPARD	1
Pulmonary Hypertension	Recurrent chronic thromboembolic pulmonary hypertension	0.00617	PPARD	1
Pulmonary Hypertension	Inoperable chronic thromboembolic pulmonary hypertension	0.00617	PPARD	1
Pulmonary Hypertension	Persistent chronic thromboembolic pulmonary hypertension	0.00617	PPARD	1
Hepatocellular carcinoma,Liver Hyperplasia/Hyperproliferation	Diethylnitrosamine-induced hepatocellular carcinoma	0.0111	ANXA2	1
Renal Necrosis/Cell Death	Cell death of kidney cell lines	0.0172	EZR,HK1,PPARD	3

Glomerular Injury	Expansion of mesangial matrix	0.0184	B4GALT1	1
Renal Necrosis/Cell Death	Cell viability of kidney cells	0.0232	PPARD	1
Cardiac Enlargement	Hypertrophy of cardiomyocytes	0.0243	DUSP5,FHL2	2
Heart Failure	Heart failure with preserved ejection fraction	0.0293	PPARD	1
Cardiac Enlargement	Hypertrophy of heart	0.034	DUSP5,FHL2,PPARD	3
Glomerular Injury	Abnormal morphology of mesangial matrix	0.0364	B4GALT1	1
Liver Proliferation	Proliferation of liver cells	0.0431	PPARD,TNFRSF12A	2
Renal Dysfunction	Dysfunction of kidney	0.0448	PPARD	1
Cardiac Necrosis/Cell Death	Apoptosis of ventricular myocytes	0.0471	NRG1	1
Cardiac Enlargement	Hypertrophy of ventricular myocytes	0.0495	DUSP5	1
Cardiac Arrhythmia	Arrhythmia with structural heart disease	0.0515	DHRS9,FHL2	2
Cardiac Dysfunction	Left ventricular noncompaction	0.0518	FHL2	1
Glomerular Injury, Renal	Systemic lupus	0.053	DUSP5	1

Inflammation, Renal Nephritis	erythematosus nephritis			
Cardiac Arrhythmia	Arrhythmogenic right ventricular cardiomyopathy	0.0577	FHL2	1
Cardiac Necrosis/Cell Death	Cell death of cardiomyocytes	0.0582	HK1, NRG1	2
Liver Steatosis	Microvesicular hepatic steatosis	0.0589	UPP1	1
Renal Necrosis/Cell Death	Apoptosis of kidney cell lines	0.0631	EZR, PPARD	2
Liver Cholestasis	Progressive familial intrahepatic cholestasis type 1	0.0716	SLC27A4	1
Liver Fibrosis, Liver Proliferation	Proliferation of hepatic stellate cells	0.0739	PPARD	1
Glomerular Injury, Renal Inflammation, Renal Nephritis	Glomerulonephritis	0.0985	B4GALT1, DUSP5	2
Renal Hydronephrosis	Hydronephrosis	0.114	LRRC8A	1
Increased Levels of Hematocrit	Increased Levels of Hematocrit	0.121	B4GALT1	1
Liver Fibrosis	Fibrosis of liver	0.131	FHL2, PPARD	2
Liver Cirrhosis, Liver Fibrosis	Primary biliary cirrhosis	0.136	PPARD	1

Increased Levels of Red Blood Cells	Increased Levels of Red Blood Cells	0.141	B4GALT1	1
Liver Hyperplasia/Hyperproliferation	Liver tumor	0.164	ANXA2,B4GALT1,CAPN8,DUSP5,FAM32A,HK1,LMO7,LRRC8A,NACC1,NRG1,RHPN2,SLC27A4,TNFRSF21,UPP1	14
Cardiac Dilation,Cardiac Enlargement	Primary dilated cardiomyopathy	0.166	FHL2	1
Renal Necrosis/Cell Death	Cell viability of kidney cell lines	0.167	EZR	1
Cardiac Proliferation	Proliferation of cardiomyocytes	0.168	NRG1	1
Cardiac Infarction	Acute myocardial infarction	0.173	PPARD	1
Liver Hyperplasia/Hyperproliferation	Liver cholangiocarcinoma	0.198	NACC1	1
Cardiac Arrhythmia	Atrial fibrillation	0.261	DHRS9	1
Glomerular Injury	Glomerulosclerosis	0.289	B4GALT1	1
Liver Damage	Liver Damage	0.324	PPARD	1
Liver Hyperplasia/Hyperproliferation	Liver cancer	0.351	ANXA2,B4GALT1,CAPN8,DUSP5,HK1,LRRC8A,NACC1,NRG1,RHPN2,TNFRSF21,UPP1	11
Liver Hyperplasia/Hyperproliferation	Liver carcinoma	0.449	ANXA2,CAPN8,DUSP5,HK1,LRRC8A,NACC1,NRG1,RHPN2,TNFRSF21,UPP1	10
Liver Inflammation/Hepatitis	Inflammation of liver	0.524	AGPAT2	1
Hepatocellular carcinoma,Liver	Hepatocellular carcinoma	1	ANXA2,DUSP5,UPP1	3

Hyperplasia/Hyperproliferation				
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