

Table 1 *In vitro*

Strains	Initial 2.5	Final 2.5	Initial 7.0	Final 7.0	Initial bile	Final bile	Initial-CHO OD550	Final-CHO OD550	CHO-reduction
12	8.25	4.06	8.45	3.64	5.35	3.05	0.702	0.463	0.339826
12	8.43	4.11	8.62	3.56	5.33	3.1	0.701	0.459	0.345529
12	8.22	4.25	8.55	3.58	5.2	2.99	0.701	0.465	0.336974
38	7.15	3.45	8.5	4.01	4.29	1.89		0.609	0.13165
38	7.26	3.52	8.35	3.95	4.45	1.95		0.611	0.128798
38	7.19	3.65	8.48	3.88	4.52	2.01		0.605	0.137353
66	8.05	7.42	7.95	7.23	6.75	7.05		0.271	0.613591
66	8.11	7.35	7.85	7.32	6.65	7.11		0.268	0.617869
66	8.06	7.3	8.03	7.27	6.78	6.98		0.273	0.61074
71	6.99	5.6	8.16	6.45	5.68	3.18		0.434	0.381176
71	7.09	5.65	8.19	6.54	5.78	3.08	The same as above	0.438	0.375472
71	7.13	5.63	8.12	6.57	5.55	3.05		0.429	0.388305
73	7.76	3.33	7.75	2.64	5.39	2.97		0.504	0.281365
73	7.68	3.43	7.89	2.56	5.54	3.02		0.502	0.284217
73	7.75	3.39	7.92	2.67	5.43	3.05		0.509	0.274236
86	8.52	3.79	7.53	4.6	4.67	2.05		0.549	0.217202
86	8.43	3.87	7.49	4.63	4.78	2.09		0.545	0.222905
86	8.56	3.8	7.45	4.55	4.83	2.03		0.55	0.215776

Table 2 *In vivo*

Groups	Body weight	Liver weight	Liver/body	ALT	AST	AST/ALT	Ablumin	TG	TC	HDL	LDL
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	ht		weight								
CON	493.4	14.060	0.0285	40.	142.	3.56	28	1.7	0.8	1.15	0.6
		4		1	7			3			3
CON	501.5	14.269	0.0285	50	118.	2.37	33	1.7	0.6	1.15	0.6
		9			5			7	8		8
CON	493.5	14.227	0.0288	41.	129.	3.16	28	1	1.4	1.51	0.3
				1	8				9		8
CON	541.4	14.318	0.0264	34.	57.5	1.67	30	1.3	1.6	1.69	0.4
				4				6	8		7
CON	618.5	16.266	0.0263	39	93.3	2.39	28	2.1	1.7	1.1	0.9
		2						4	6		3
CON	517.1	11.633	0.0225	38.	83.3	2.41	27	1.5	1.0	1	0.7
		3		5				7	1		9
HFD	625.4	17.406	0.0278	46	121.	2.25	27	1.6	1.6	1.07	0.8
					3			7	5		2
HFD	606.4	17.028	0.0281	45.	79.9	2.27	30	2.2	1.8	1	0.8
		2		2				6	9		6
HFD	645.4	19.035	0.0295	51.	98.9	2.04	27	2.6	2.4	1.1	0.8
		7		4				6	3		9
HFD	661.1	19.287	0.0292	54.	110.	2.37	29	1.8	1.7	0.76	0.7
		6		6	4			2	4		5
HFD	575.2	17.846	0.031	62.	89.2	1.43	28	1.4	1.4	0.56	0.8
		6		5				3	8		
HFD	542.7	17.428	0.0321	50.	79.6	1.99	27	1.4	1.5	0.65	0.6
		2		1				5	3		9
Pro	617.8	20.548	0.0333	48.	88.8	2.71	27	2.1	1.7	0.95	0.6
(L)		4		8				3	1		8
Pro	587.8	15.193	0.0258	52	108.	1.39	30	1.7	1.2	0.64	0.7
(L)		3			4			8			9
Pro	583.5	15.876	0.0272	40.	86.9	1.71	28	2.1	1.0	0.65	0.7
(L)		2		9				2	5		7
Pro	619.5	16.253	0.0262	47.	82	1.74	28	1.5	1.1	0.88	0.5
(L)		7		2				8	4		6
Pro	541.8	14.330	0.0264	42.	61	2.68	26	1.8	1.1	1.12	0.6
(L)		6		8				4	1		1
Pro	434.8	10.979	0.0253	38.	78.9	2.03	27	1.8	1.2	1.25	0.6
(L)		3		9				2	8		1
Pro	584	13.886	0.0238	54.	76.4	1.4	25	1.4	1.6	1.25	0.7
(L)		6		5				3	9		4
Pro	517.8	12.772	0.0247	45	71.6	2.05	27	1.8	1.8	0.95	0.6
(M)		2						5	5		6
Pro	613.7	15.616	0.0254	50.	67	2.57	26	1.3	1.7	0.64	0.8
(M)		2		1				5	1		9
Pro	574.4	15.156	0.0264	43.	78.3	2.33	28	1.2	1.1	0.65	0.6

(M)		2		6				8	4		
Pro	598.9	15.559	0.026	41.	66	3.03	29	1.5	1.8	0.88	0.6
(M)		9		8				7	2		2
Pro	516.5	12.256	0.0237	52.	129.	2.46	27	1.6	0.7	1.12	0.6
(M)		5		7	5			4	4		1
Pro	538.6	13.595	0.0252	48	77.7	1.62	28	1.7	0.9	1.25	0.5
(M)		6						6	6		8
Pro	538.6	13.595	0.0252	48	77.7	1.62	28	1.7	0.9	1.25	0.5
(M)		6						6	6		7
Pro	570.4	16.570	0.0291	40.	78.9	1.95	30	2.1	1.5	1.4	0.6
(M)		6		5				8	1		
Pro	524.2	12.155	0.0232	30.	67.3	2.21	27	1.5	2.2	1.15	0.6
(H)		2		4				4	9		2
Pro	575.3	16.413	0.0285	45.	93.5	0	28	1.5	0.5	1.28	0.4
(H)				1				2	8		7
Pro	450.5	11.133	0.0247	37.	84.8	1.79	25	1.3	1.0	0.64	0.6
(H)		9		4				9	2		
Pro	497.6	11.110	0.0223	33.	98.7	1.84	28	2.0	0.8	0.84	0.4
(H)		4		7				1	8		3
Pro	454.8	11.538	0.0254	38.	106.	2.18	27	1.7	0.8	1.49	0.7
(H)		8		9	7			9	1		1
Pro	568.1	14.013	0.0247	48	95.3	1.22	28	1.6	0.8	0.99	0.6
(H)		6						8	6		5
Pro	565.1	13.140	0.0233	38.	72.1	12.35	27	1.7	0.8	1.1	0.5
(H)		5		4				9	2		5

Histopathological sections(H&E)





