

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

C Number:

C20605-01

Cage Range:

All

Date Range:

All

Reasons For Removal:

All

Removal Date Range:

All

Treatment Groups:

All

Study Gender:

Both

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Male: Day 28 Males

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Urea Nitrogen (mg/dL)	SD 28	15.5 ± 0.6 (10) **	14.8 ± 0.4 (10)	14.2 ± 0.4 (10)	13.7 ± 0.8 (10)	13.3 ± 0.4 (10) *
Percent of Control			95.5	91.6	88.4	85.8
Creatinine (mg/dL)	SD 28	0.68 ± 0.01 (10) *	0.70 ± 0.00 (10)	0.70 ± 0.00 (10)	0.70 ± 0.00 (10)	0.70 ± 0.00 (10)
Percent of Control			102.94	102.94	102.94	102.94
Glucose (mg/dL)	SD 28	141.5 ± 5.3 (10)	138.1 ± 2.1 (10)	140.7 ± 7.6 (10)	136.5 ± 4.5 (10)	137.9 ± 3.2 (10)
Percent of Control			97.6	99.4	96.5	97.5
Total Protein (g/dL)	SD 28	6.37 ± 0.09 (10) *	6.31 ± 0.04 (10)	6.25 ± 0.06 (10)	6.57 ± 0.11 (10)	6.44 ± 0.09 (10)
Percent of Control			99.06	98.12	103.14	101.10
Globulin (g/dL)	SD 28	1.99 ± 0.06 (10) **	1.97 ± 0.03 (10)	1.91 ± 0.03 (10)	2.10 ± 0.05 (10)	2.03 ± 0.05 (10)
Percent of Control			98.99	95.98	105.53	102.01
A/G Ratio	SD 28	2.21 ± 0.06 (10) *	2.21 ± 0.05 (10)	2.28 ± 0.03 (10)	2.13 ± 0.04 (10)	2.18 ± 0.04 (10)
Percent of Control			99.72	102.76	96.37	98.48
Albumin (g/dL)	SD 28	4.38 ± 0.04 (10)	4.34 ± 0.05 (10)	4.34 ± 0.04 (10)	4.47 ± 0.07 (10)	4.41 ± 0.04 (10)
Percent of Control			99.09	99.09	102.05	100.68
Cholesterol (mg/dL)	SD 28	111.1 ± 3.4 (10) **	113.2 ± 3.5 (10)	104.3 ± 2.6 (10)	108.9 ± 3.0 (10)	103.1 ± 2.8 (10)
Percent of Control			101.9	93.9	98.0	92.8
Triglyceride (mg/dL)	SD 28	90.0 ± 11.1 (10)	78.1 ± 6.8 (10)	65.1 ± 6.2 (10)	65.8 ± 4.4 (10)	77.3 ± 10.0 (10)
Percent of Control			86.8	72.3	73.1	85.9
Alanine Aminotransferase (IU/L)	SD 28	62.00 ± 2.38 (10)	72.50 ± 2.64 (10) *	66.10 ± 2.72 (10)	66.20 ± 2.04 (10)	62.90 ± 2.12 (10)
Percent of Control			116.94	106.61	106.77	101.45
Alkaline Phosphatase (IU/L)	SD 28	326.0 ± 16.1 (10) **	352.2 ± 15.5 (10)	283.9 ± 4.3 (10)	274.7 ± 14.3 (10)	247.2 ± 9.3 (10) **
Percent of Control			108.0	87.1	84.3	75.8

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

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Lab: NTP

Male: Day 28 Males

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Creatine Kinase (IU/L)	SD 28	144.8 ± 17.4 (10) *	171.4 ± 8.0 (10)	230.8 ± 71.5 (10)	211.9 ± 43.5 (10)	249.2 ± 28.2 (10) **
Percent of Control			118.4	159.4	146.3	172.1
Sorbitol Dehydrogenase (IU/L)	SD 28	9.4 ± 0.3 (10) *	11.2 ± 0.6 (10)	10.1 ± 0.8 (10)	11.5 ± 0.8 (10)	10.5 ± 0.8 (10)
Percent of Control			119.1	107.4	122.3	111.7
Bile salt/acids (umol/L)	SD 28	37.2 ± 5.4 (10) **	57.3 ± 12.8 (10)	34.5 ± 3.0 (10)	30.3 ± 3.0 (10)	34.2 ± 2.4 (10)
Percent of Control			154.0	92.7	81.5	91.9
Phospholipids (mg/dL)	SD 28	202.9 ± 6.2 (10) **	203.3 ± 4.2 (10)	191.1 ± 4.3 (10)	194.7 ± 5.2 (10)	185.2 ± 5.7 (10) *
Percent of Control			100.2	94.2	96.0	91.3

Experiment Number: C20605-01

Test Type: TOX

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PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

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Lab: NTP

Male: Day 28 Males

		Treatment Groups
	Phase Day	1000
Urea Nitrogen (mg/dL)	SD 28	13.4 ± 0.5 (10) *
Percent of Control		86.5
Creatinine (mg/dL)	SD 28	0.71 ± 0.01 (10) *
Percent of Control		104.41
Glucose (mg/dL)	SD 28	143.9 ± 7.0 (10)
Percent of Control		101.7
Total Protein (g/dL)	SD 28	6.55 ± 0.09 (10)
Percent of Control		102.83
Globulin (g/dL)	SD 28	2.16 ± 0.04 (10) *
Percent of Control		108.54
A/G Ratio	SD 28	2.04 ± 0.04 (10)
Percent of Control		91.98
Albumin (g/dL)	SD 28	4.39 ± 0.06 (10)
Percent of Control		100.23
Cholesterol (mg/dL)	SD 28	99.0 ± 4.6 (10) *
Percent of Control		89.1
Triglyceride (mg/dL)	SD 28	79.8 ± 10.0 (10)
Percent of Control		88.7
Alanine Aminotransferase (IU/L)	SD 28	64.80 ± 3.04 (10)
Percent of Control		104.52
Alkaline Phosphatase (IU/L)	SD 28	215.7 ± 6.7 (10) **
Percent of Control		66.2

Experiment Number: C20605-01
Test Type: TOX
Route: Oral Gavage
Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary
Test Compound: Gum Guggul Extract
CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017
Time Report Requested: 12:55:15
Lab: NTP

Male: Day 28 Males

	Phase Day	Treatment Groups
		1000
Creatine Kinase (IU/L)	SD 28	195.0 ± 20.6 (10)
Percent of Control		134.7
Sorbitol Dehydrogenase (IU/L)	SD 28	12.1 ± 0.7 (10) *
Percent of Control		128.7
Bile salt/acids (umol/L)	SD 28	24.6 ± 2.4 (10) *
Percent of Control		66.1
Phospholipids (mg/dL)	SD 28	180.4 ± 6.5 (10) *
Percent of Control		88.9

Experiment Number: C20605-01

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PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

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Lab: NTP

Male: Day 92 Males

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Urea Nitrogen (mg/dL)	SD 92	13.8 ± 0.4 (10)	13.2 ± 0.2 (10)	13.1 ± 0.4 (10)	13.6 ± 0.3 (10)	14.2 ± 0.6 (10)
Percent of Control			95.7	94.9	98.6	102.9
Creatinine (mg/dL)	SD 92	0.81 ± 0.02 (10)	0.78 ± 0.02 (10)	0.76 ± 0.02 (10)	0.80 ± 0.01 (10)	0.81 ± 0.01 (10)
Percent of Control			96.30	93.83	98.77	100.00
Glucose (mg/dL)	SD 92	119.8 ± 3.4 (10)	122.9 ± 2.8 (10)	122.5 ± 2.7 (10)	123.3 ± 4.1 (10)	121.5 ± 3.1 (10)
Percent of Control			102.6	102.3	102.9	101.4
Total Protein (g/dL)	SD 92	6.63 ± 0.05 (10)	6.68 ± 0.07 (10)	6.71 ± 0.08 (10)	6.68 ± 0.06 (10)	6.78 ± 0.07 (10)
Percent of Control			100.75	101.21	100.75	102.26
Globulin (g/dL)	SD 92	2.16 ± 0.05 (10)	2.30 ± 0.06 (10)	2.25 ± 0.03 (10)	2.26 ± 0.05 (10)	2.34 ± 0.05 (10)
Percent of Control			106.48	104.17	104.63	108.33
A/G Ratio	SD 92	2.08 ± 0.06 (10) **	1.91 ± 0.05 (10)	1.98 ± 0.02 (10)	1.96 ± 0.05 (10)	1.91 ± 0.05 (10)
Percent of Control			91.92	95.26	94.32	91.53
Albumin (g/dL)	SD 92	4.47 ± 0.04 (10) **	4.38 ± 0.03 (10)	4.46 ± 0.05 (10)	4.42 ± 0.04 (10)	4.44 ± 0.05 (10)
Percent of Control			97.99	99.78	98.88	99.33
Cholesterol (mg/dL)	SD 92	109.0 ± 4.9 (10)	110.3 ± 2.7 (10)	114.5 ± 3.9 (10)	103.6 ± 2.2 (10)	105.4 ± 4.8 (10)
Percent of Control			101.2	105.0	95.0	96.7
Triglyceride (mg/dL)	SD 92	63.9 ± 5.6 (10)	68.2 ± 6.3 (10)	71.5 ± 7.4 (10)	77.0 ± 10.0 (10)	76.5 ± 6.2 (10)
Percent of Control			106.7	111.9	120.5	119.7
Alanine Aminotransferase (IU/L)	SD 92	60.90 ± 1.99 (10)	76.60 ± 14.38 (10)	62.00 ± 2.12 (10)	64.30 ± 2.47 (10)	61.00 ± 2.48 (10)
Percent of Control			125.78	101.81	105.58	100.16
Alkaline Phosphatase (IU/L)	SD 92	205.2 ± 11.1 (10) **	223.9 ± 14.6 (10)	190.0 ± 6.1 (10)	161.8 ± 8.0 (10) **	155.0 ± 8.2 (10) **
Percent of Control			109.1	92.6	78.8	75.5

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Male: Day 92 Males

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Creatine Kinase (IU/L)	SD 92	236.4 ± 33.4 (10)	165.6 ± 27.9 (10)	204.3 ± 24.1 (10)	188.1 ± 36.3 (10)	172.8 ± 26.7 (10)
Percent of Control			70.1	86.4	79.6	73.1
Sorbitol Dehydrogenase (IU/L)	SD 92	10.4 ± 0.9 (10)	10.2 ± 0.6 (10)	9.4 ± 0.7 (10)	11.3 ± 0.7 (10)	9.6 ± 0.7 (10)
Percent of Control			98.1	90.4	108.7	92.3
Bile salt/acids (umol/L)	SD 92	28.5 ± 2.6 (10) *	26.5 ± 2.6 (10)	30.5 ± 3.7 (10)	25.8 ± 2.5 (10)	22.8 ± 3.2 (10)
Percent of Control			93.0	107.0	90.5	80.0
Phospholipids (mg/dL)	SD 92	175.6 ± 5.1 (10)	177.9 ± 3.7 (10)	183.6 ± 6.0 (10)	170.7 ± 4.7 (10)	171.0 ± 7.3 (10)
Percent of Control			101.3	104.6	97.2	97.4

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Male: Day 92 Males

	Phase Day	Treatment Groups
		1000
Urea Nitrogen (mg/dL)	SD 92	12.6 ± 0.4 (10)
Percent of Control		91.3
Creatinine (mg/dL)	SD 92	0.78 ± 0.01 (10)
Percent of Control		96.30
Glucose (mg/dL)	SD 92	113.8 ± 3.8 (10)
Percent of Control		95.0
Total Protein (g/dL)	SD 92	6.53 ± 0.05 (10)
Percent of Control		98.49
Globulin (g/dL)	SD 92	2.32 ± 0.04 (10)
Percent of Control		107.41
A/G Ratio	SD 92	1.82 ± 0.04 (10) **
Percent of Control		87.42
Albumin (g/dL)	SD 92	4.21 ± 0.04 (10) **
Percent of Control		94.18
Cholesterol (mg/dL)	SD 92	104.3 ± 4.0 (10)
Percent of Control		95.7
Triglyceride (mg/dL)	SD 92	70.3 ± 5.6 (10)
Percent of Control		110.0
Alanine Aminotransferase (IU/L)	SD 92	60.90 ± 3.11 (10)
Percent of Control		100.00
Alkaline Phosphatase (IU/L)	SD 92	142.0 ± 6.4 (10) **
Percent of Control		69.2

Experiment Number: C20605-01
Test Type: TOX
Route: Oral Gavage
Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary
Test Compound: Gum Guggul Extract
CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017
Time Report Requested: 12:55:15
Lab: NTP

Male: Day 92 Males

	Phase Day	Treatment Groups
		1000
Creatine Kinase (IU/L)	SD 92	329.6 ± 96.3 (10)
Percent of Control		139.4
Sorbitol Dehydrogenase (IU/L)	SD 92	12.3 ± 0.8 (10)
Percent of Control		118.3
Bile salt/acids (umol/L)	SD 92	19.5 ± 2.2 (10)
Percent of Control		68.4
Phospholipids (mg/dL)	SD 92	168.8 ± 5.1 (10)
Percent of Control		96.1

Experiment Number: C20605-01

Test Type: TOX

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PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Female: Day 28 Females

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Urea Nitrogen (mg/dL)	SD 28	13.4 ± 0.7 (10) **	12.9 ± 0.3 (10)	13.4 ± 0.7 (10)	14.8 ± 0.5 (10)	15.7 ± 0.7 (10)
Percent of Control			96.3	100.0	110.4	117.2
Creatinine (mg/dL)	SD 28	0.71 ± 0.01 (10)	0.71 ± 0.01 (10)	0.71 ± 0.01 (10)	0.70 ± 0.00 (10)	0.72 ± 0.01 (10)
Percent of Control			100.00	100.00	98.59	101.41
Glucose (mg/dL)	SD 28	134.8 ± 3.2 (10)	153.4 ± 14.1 (10)	138.6 ± 4.9 (10)	131.6 ± 3.5 (10)	134.8 ± 4.6 (10)
Percent of Control			113.8	102.8	97.6	100.0
Total Protein (g/dL)	SD 28	6.09 ± 0.07 (10) *	6.23 ± 0.08 (10)	6.19 ± 0.11 (10)	6.24 ± 0.05 (10)	6.28 ± 0.07 (10)
Percent of Control			102.30	101.64	102.46	103.12
Globulin (g/dL)	SD 28	1.78 ± 0.02 (10) **	1.89 ± 0.04 (10)	1.82 ± 0.05 (10)	1.86 ± 0.02 (10)	1.90 ± 0.04 (10) *
Percent of Control			106.18	102.25	104.49	106.74
A/G Ratio	SD 28	2.42 ± 0.04 (10) **	2.31 ± 0.05 (10)	2.41 ± 0.06 (10)	2.36 ± 0.03 (10)	2.31 ± 0.06 (10)
Percent of Control			95.11	99.54	97.25	95.49
Albumin (g/dL)	SD 28	4.31 ± 0.06 (10)	4.34 ± 0.05 (10)	4.37 ± 0.07 (10)	4.38 ± 0.05 (10)	4.38 ± 0.06 (10)
Percent of Control			100.70	101.39	101.62	101.62
Cholesterol (mg/dL)	SD 28	100.7 ± 3.0 (10)	100.6 ± 2.6 (10)	101.4 ± 5.2 (10)	106.4 ± 4.3 (10)	104.2 ± 5.6 (10)
Percent of Control			99.9	100.7	105.7	103.5
Triglyceride (mg/dL)	SD 28	48.2 ± 3.7 (10)	44.3 ± 4.0 (10)	41.9 ± 3.5 (10)	39.1 ± 4.9 (10)	45.2 ± 3.8 (10)
Percent of Control			91.9	86.9	81.1	93.8
Alanine Aminotransferase (IU/L)	SD 28	57.10 ± 2.78 (10)	61.00 ± 2.48 (10)	62.30 ± 3.08 (10)	56.40 ± 2.86 (10)	58.00 ± 2.72 (10)
Percent of Control			106.83	109.11	98.77	101.58
Alkaline Phosphatase (IU/L)	SD 28	270.3 ± 17.2 (10) **	213.4 ± 12.5 (10) *	217.3 ± 9.1 (10) *	209.4 ± 17.4 (10) *	192.6 ± 9.8 (10) **
Percent of Control			78.9	80.4	77.5	71.3

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

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Lab: NTP

Female: Day 28 Females

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Creatine Kinase (IU/L)	SD 28	139.8 ± 10.2 (10)	130.5 ± 7.5 (10)	159.8 ± 25.5 (10)	263.9 ± 83.1 (10)	190.0 ± 32.6 (10)
Percent of Control			93.3	114.3	188.8	135.9
Sorbitol Dehydrogenase (IU/L)	SD 28	7.9 ± 0.5 (10)	8.0 ± 0.5 (10)	7.2 ± 0.4 (10)	8.2 ± 0.6 (10)	8.4 ± 0.7 (10)
Percent of Control			101.3	91.1	103.8	106.3
Bile salt/acids (umol/L)	SD 28	28.2 ± 2.8 (10) **	35.9 ± 7.2 (10)	25.7 ± 3.6 (10)	23.1 ± 2.9 (10)	21.6 ± 1.9 (10)
Percent of Control			127.3	91.1	81.9	76.6
Phospholipids (mg/dL)	SD 28	179.0 ± 4.2 (10)	175.0 ± 3.2 (10)	178.6 ± 6.6 (10)	186.3 ± 6.4 (10)	181.1 ± 7.7 (10)
Percent of Control			97.8	99.8	104.1	101.2

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Female: Day 28 Females

		Treatment Groups
	Phase Day	1000
Urea Nitrogen (mg/dL)	SD 28	14.7 ± 0.7 (10)
Percent of Control		109.7
Creatinine (mg/dL)	SD 28	0.69 ± 0.01 (10)
Percent of Control		97.18
Glucose (mg/dL)	SD 28	134.7 ± 3.7 (10)
Percent of Control		99.9
Total Protein (g/dL)	SD 28	6.38 ± 0.06 (10) *
Percent of Control		104.76
Globulin (g/dL)	SD 28	2.06 ± 0.03 (10) **
Percent of Control		115.73
A/G Ratio	SD 28	2.10 ± 0.05 (10) **
Percent of Control		86.74
Albumin (g/dL)	SD 28	4.32 ± 0.06 (10)
Percent of Control		100.23
Cholesterol (mg/dL)	SD 28	108.1 ± 3.4 (10)
Percent of Control		107.3
Triglyceride (mg/dL)	SD 28	47.3 ± 4.4 (10)
Percent of Control		98.1
Alanine Aminotransferase (IU/L)	SD 28	57.20 ± 1.38 (10)
Percent of Control		100.18
Alkaline Phosphatase (IU/L)	SD 28	151.5 ± 7.2 (10) **
Percent of Control		56.0

Experiment Number: C20605-01
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Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary
Test Compound: Gum Guggul Extract
CAS Number: GUMGUGGULEXT

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Lab: NTP

Female: Day 28 Females

	Phase Day	Treatment Groups
		1000
Creatine Kinase (IU/L)	SD 28	150.4 ± 12.9 (10)
Percent of Control		107.6
Sorbitol Dehydrogenase (IU/L)	SD 28	8.8 ± 0.4 (10)
Percent of Control		111.4
Bile salt/acids (umol/L)	SD 28	22.4 ± 2.7 (10)
Percent of Control		79.4
Phospholipids (mg/dL)	SD 28	188.3 ± 4.5 (10)
Percent of Control		105.2

Experiment Number: C20605-01

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PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Female: Day 92 Females

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Urea Nitrogen (mg/dL)	SD 92	15.4 ± 0.4 (9)	14.5 ± 0.5 (10)	16.6 ± 0.6 (9)	14.8 ± 0.6 (10)	17.2 ± 1.0 (9)
Percent of Control			93.9	107.2	95.8	111.5
Creatinine (mg/dL)	SD 92	0.80 ± 0.02 (9)	0.81 ± 0.02 (10)	0.83 ± 0.02 (9)	0.80 ± 0.01 (10)	0.80 ± 0.02 (9)
Percent of Control			101.25	104.17	100.00	100.00
Glucose (mg/dL)	SD 92	129.9 ± 4.4 (9)	128.2 ± 3.0 (10)	132.0 ± 5.1 (9)	127.4 ± 4.4 (10)	126.4 ± 4.4 (9)
Percent of Control			98.7	101.6	98.1	97.3
Total Protein (g/dL)	SD 92	6.78 ± 0.07 (9)	6.70 ± 0.06 (10)	6.92 ± 0.11 (9)	6.67 ± 0.09 (10)	6.88 ± 0.14 (9)
Percent of Control			98.85	102.13	98.41	101.48
Globulin (g/dL)	SD 92	1.98 ± 0.07 (9) **	1.98 ± 0.04 (10)	2.08 ± 0.04 (9)	1.96 ± 0.03 (10)	2.19 ± 0.07 (9) *
Percent of Control			100.11	105.06	99.10	110.67
A/G Ratio	SD 92	2.45 ± 0.09 (9) **	2.40 ± 0.07 (10)	2.34 ± 0.08 (9)	2.41 ± 0.04 (10)	2.17 ± 0.11 (9) *
Percent of Control			97.75	95.41	98.19	88.34
Albumin (g/dL)	SD 92	4.80 ± 0.05 (9)	4.72 ± 0.06 (10)	4.84 ± 0.11 (9)	4.71 ± 0.07 (10)	4.69 ± 0.12 (9)
Percent of Control			98.33	100.93	98.13	97.69
Cholesterol (mg/dL)	SD 92	98.3 ± 5.9 (9) *	95.3 ± 4.1 (10)	98.9 ± 4.0 (9)	99.0 ± 4.2 (10)	111.7 ± 9.4 (9)
Percent of Control			96.9	100.6	100.7	113.6
Triglyceride (mg/dL)	SD 92	50.6 ± 2.6 (9)	45.8 ± 3.7 (10)	53.0 ± 5.9 (9)	43.8 ± 3.3 (10)	56.6 ± 8.6 (9)
Percent of Control			90.6	104.8	86.6	111.9
Alanine Aminotransferase (IU/L)	SD 92	54.22 ± 2.11 (9)	57.90 ± 2.52 (10)	58.78 ± 3.65 (9)	53.50 ± 2.42 (10)	55.89 ± 3.28 (9)
Percent of Control			106.78	108.40	98.67	103.07
Alkaline Phosphatase (IU/L)	SD 92	194.9 ± 11.0 (9) **	163.3 ± 9.4 (10)	160.7 ± 9.4 (9) *	114.7 ± 5.2 (10) **	106.8 ± 6.0 (9) **
Percent of Control			83.8	82.4	58.9	54.8

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Female: Day 92 Females

	Phase Day	Treatment Groups (mg/kg)				
		0	62.5	125	250	500
Creatine Kinase (IU/L)	SD 92	208.9 ± 44.2 (9)	162.4 ± 26.1 (10)	187.4 ± 23.8 (9)	190.1 ± 26.0 (10)	173.4 ± 33.7 (9)
Percent of Control			77.7	89.7	91.0	83.0
Sorbitol Dehydrogenase (IU/L)	SD 92	8.0 ± 0.5 (9)	7.1 ± 0.6 (10)	9.3 ± 0.7 (9)	8.5 ± 0.5 (10)	10.0 ± 2.6 (9)
Percent of Control			88.8	116.7	106.3	125.0
Bile salt/acids (umol/L)	SD 92	34.4 ± 3.3 (9) **	19.2 ± 2.6 (10) **	20.2 ± 2.9 (9) **	26.2 ± 2.9 (10) *	20.4 ± 1.9 (9) *
Percent of Control			55.7	58.7	76.1	59.4
Phospholipids (mg/dL)	SD 92	186.4 ± 9.4 (9)	171.7 ± 5.4 (10)	182.0 ± 5.5 (9)	178.5 ± 7.0 (10)	195.8 ± 14.3 (9)
Percent of Control			92.1	97.6	95.7	105.0

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

Time Report Requested: 12:55:15

Lab: NTP

Female: Day 92 Females

		Treatment Groups
	Phase Day	1000
Urea Nitrogen (mg/dL)	SD 92	15.0 ± 0.6 (10)
Percent of Control		97.1
Creatinine (mg/dL)	SD 92	0.80 ± 0.00 (10)
Percent of Control		100.00
Glucose (mg/dL)	SD 92	127.3 ± 4.7 (10)
Percent of Control		98.0
Total Protein (g/dL)	SD 92	6.88 ± 0.06 (10)
Percent of Control		101.51
Globulin (g/dL)	SD 92	2.18 ± 0.03 (10) **
Percent of Control		110.22
A/G Ratio	SD 92	2.16 ± 0.03 (10) *
Percent of Control		88.06
Albumin (g/dL)	SD 92	4.70 ± 0.05 (10)
Percent of Control		97.92
Cholesterol (mg/dL)	SD 92	109.2 ± 3.9 (10)
Percent of Control		111.1
Triglyceride (mg/dL)	SD 92	65.6 ± 7.3 (10)
Percent of Control		129.8
Alanine Aminotransferase (IU/L)	SD 92	56.50 ± 3.02 (10)
Percent of Control		104.20
Alkaline Phosphatase (IU/L)	SD 92	93.1 ± 7.1 (10) **
Percent of Control		47.8

Experiment Number: C20605-01
Test Type: TOX
Route: Oral Gavage
Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary
Test Compound: Gum Guggul Extract
CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017
Time Report Requested: 12:55:15
Lab: NTP

Female: Day 92 Females

	Phase Day	Treatment Groups
		1000
Creatine Kinase (IU/L)	SD 92	292.2 ± 66.5 (10)
Percent of Control		139.9
Sorbitol Dehydrogenase (IU/L)	SD 92	7.6 ± 0.6 (10)
Percent of Control		95.0
Bile salt/acids (umol/L)	SD 92	16.3 ± 1.4 (10) **
Percent of Control		47.3
Phospholipids (mg/dL)	SD 92	193.7 ± 6.5 (10)
Percent of Control		103.9

Experiment Number: C20605-01

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Gum Guggul Extract

CAS Number: GUMGUGGULEXT

Date Report Requested: 05/16/2017

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Lab: NTP

LEGEND

SD – Study Day; GD – Gestation Day; LD – Lactation Day; PND – Postnatal Day, adults post-weaning

Values given as mean \pm SEM (N) with Percent of Control calculated by (dosed group mean / control group mean) x 100

Clinical Chemistry for gestation phase includes pregnant females only

Statistical analysis performed by Jonckheere (trend) and Shirley or Dunn (pairwise) tests

Statistical significance for the control group indicates a significant trend test

Statistical significance for a treatment group indicates a significant pairwise test compared to the vehicle control group

* Statistically significant at $P \leq 0.05$

** Statistically significant at $P \leq 0.01$

**** END OF REPORT ****