

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

C Number: C08010-01

Cage Range: All

Date Range: All

Reasons For Removal: All

Removal Date Range: All

Treatment Groups: All

Study Gender: Both

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Lab: NTP

Male

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Urea Nitrogen (mg/dL)	SD 3	6.8 ± 0.5 (10)	8.4 ± 0.6 (10)	7.5 ± 0.5 (10)	7.0 ± 0.5 (10)	7.2 ± 0.4 (10)
Percent of Control			123.5	110.3	102.9	105.9
Creatinine (mg/dL)	SD 3	0.18 ± 0.01 (10)	0.20 ± 0.00 (10)	0.20 ± 0.00 (10)	0.17 ± 0.02 (10)	0.19 ± 0.01 (10)
Percent of Control			111.11	111.11	94.44	105.56
Glucose (mg/dL)	SD 3	133.9 ± 2.7 (10)	137.2 ± 3.4 (10)	134.6 ± 3.3 (10)	136.6 ± 2.0 (10)	130.5 ± 2.4 (10)
Percent of Control			102.5	100.5	102.0	97.5
Total Protein (g/dL)	SD 3	5.94 ± 0.09 (10)	5.83 ± 0.07 (10)	5.84 ± 0.04 (10)	5.70 ± 0.06 (10)	5.78 ± 0.07 (10)
Percent of Control			98.15	98.32	95.96	97.31
Globulin (g/dL)	SD 3	1.65 ± 0.07 (10)	1.60 ± 0.05 (10)	1.66 ± 0.05 (10)	1.55 ± 0.05 (10)	1.65 ± 0.03 (10)
Percent of Control			96.97	100.61	93.94	100.00
A/G Ratio	SD 3	2.63 ± 0.09 (10)	2.66 ± 0.08 (10)	2.55 ± 0.11 (10)	2.71 ± 0.12 (10)	2.51 ± 0.04 (10)
Percent of Control			101.23	96.90	103.12	95.32
Albumin (g/dL)	SD 3	4.29 ± 0.05 (10) *	4.23 ± 0.05 (10)	4.18 ± 0.04 (10)	4.15 ± 0.07 (10)	4.13 ± 0.05 (10)
Percent of Control			98.60	97.44	96.74	96.27
Cholesterol (mg/dL)	SD 3	92.2 ± 3.4 (10)	92.6 ± 4.3 (10)	91.5 ± 3.7 (10)	84.2 ± 3.9 (10)	87.7 ± 5.6 (10)
Percent of Control			100.4	99.2	91.3	95.1
Triglyceride (mg/dL)	SD 3	92.0 ± 7.5 (10) *	68.9 ± 7.4 (10)	67.6 ± 7.0 (10)	56.6 ± 5.4 (10) **	65.5 ± 7.1 (10)
Percent of Control			74.9	73.5	61.5	71.2
Alanine Aminotransferase (IU/L)	SD 3	31.70 ± 1.31 (10) *	35.70 ± 1.98 (10)	32.80 ± 1.42 (10)	32.70 ± 1.04 (10)	31.20 ± 1.30 (10)
Percent of Control			112.62	103.47	103.15	98.42
Alkaline Phosphatase (IU/L)	SD 3	271.8 ± 13.2 (10)	250.6 ± 13.6 (10)	267.2 ± 14.5 (10)	273.9 ± 20.0 (10)	298.2 ± 15.0 (10)
Percent of Control			92.2	98.3	100.8	109.7

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Male

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Creatine Kinase (IU/L)	SD 3	285.9 ± 23.5 (10)	576.9 ± 135.4 (10)	359.5 ± 40.5 (10)	329.4 ± 54.4 (10)	315.1 ± 37.6 (10)
Percent of Control			201.8	125.7	115.2	110.2
Sorbitol Dehydrogenase (IU/L)	SD 3	14.7 ± 0.5 (10) **	14.3 ± 1.4 (10)	14.6 ± 0.4 (10)	14.7 ± 0.4 (10)	13.6 ± 0.7 (10)
Percent of Control			97.5	99.7	100.1	92.6
Bile salt/acids (umol/L)	SD 3	24.3 ± 2.7 (10) **	34.6 ± 5.3 (10)	28.9 ± 6.8 (10)	24.7 ± 7.3 (10)	23.9 ± 2.4 (10)
Percent of Control			142.3	118.9	101.8	98.1

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Male

	Phase Day	Treatment Groups 100
Urea Nitrogen (mg/dL)	SD 3	8.0 ± 0.3 (10)
Percent of Control		117.6
Creatinine (mg/dL)	SD 3	0.17 ± 0.02 (10)
Percent of Control		94.44
Glucose (mg/dL)	SD 3	135.1 ± 2.7 (10)
Percent of Control		100.9
Total Protein (g/dL)	SD 3	5.83 ± 0.07 (10)
Percent of Control		98.15
Globulin (g/dL)	SD 3	1.64 ± 0.03 (10)
Percent of Control		99.39
A/G Ratio	SD 3	2.56 ± 0.04 (10)
Percent of Control		97.30
Albumin (g/dL)	SD 3	4.19 ± 0.05 (10)
Percent of Control		97.67
Cholesterol (mg/dL)	SD 3	85.8 ± 4.6 (10)
Percent of Control		93.1
Triglyceride (mg/dL)	SD 3	68.9 ± 5.1 (10)
Percent of Control		74.9
Alanine Aminotransferase (IU/L)	SD 3	28.90 ± 0.82 (10)
Percent of Control		91.17
Alkaline Phosphatase (IU/L)	SD 3	258.4 ± 22.1 (10)
Percent of Control		95.1

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	Phase Day	Treatment Groups
		100
Creatine Kinase (IU/L)	SD 3	287.8 ± 59.8 (10)
Percent of Control		100.7
Sorbitol Dehydrogenase (IU/L)	SD 3	13.6 ± 0.2 (10)
Percent of Control		92.4
Bile salt/acids (umol/L)	SD 3	8.8 ± 1.7 (10) **
Percent of Control		36.3

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Lab: NTP

Female

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Urea Nitrogen (mg/dL)	SD 3	9.4 ± 0.3 (10)	9.8 ± 0.5 (10)	8.9 ± 0.5 (10)	10.4 ± 0.7 (10)	8.4 ± 0.4 (10)
Percent of Control			104.3	94.7	110.6	89.4
Creatinine (mg/dL)	SD 3	0.21 ± 0.01 (10)	0.20 ± 0.00 (10)	0.20 ± 0.00 (10)	0.19 ± 0.01 (10)	0.20 ± 0.00 (10)
Percent of Control			95.24	95.24	90.48	95.24
Glucose (mg/dL)	SD 3	128.2 ± 3.5 (10)	125.9 ± 2.1 (10)	122.0 ± 2.3 (10)	127.4 ± 3.3 (10)	118.7 ± 3.1 (10)
Percent of Control			98.2	95.2	99.4	92.6
Total Protein (g/dL)	SD 3	6.24 ± 0.11 (10)	6.16 ± 0.08 (10)	6.24 ± 0.12 (10)	6.07 ± 0.09 (10)	6.05 ± 0.07 (10)
Percent of Control			98.72	100.00	97.28	96.96
Globulin (g/dL)	SD 3	1.64 ± 0.05 (10)	1.59 ± 0.04 (10)	1.63 ± 0.07 (10)	1.57 ± 0.05 (10)	1.50 ± 0.04 (10)
Percent of Control			96.95	99.39	95.73	91.46
A/G Ratio	SD 3	2.82 ± 0.06 (10)	2.89 ± 0.06 (10)	2.87 ± 0.13 (10)	2.89 ± 0.09 (10)	3.05 ± 0.07 (10)
Percent of Control			102.38	102.01	102.50	108.12
Albumin (g/dL)	SD 3	4.60 ± 0.06 (10)	4.57 ± 0.06 (10)	4.61 ± 0.07 (10)	4.50 ± 0.07 (10)	4.55 ± 0.05 (10)
Percent of Control			99.35	100.22	97.83	98.91
Cholesterol (mg/dL)	SD 3	77.9 ± 4.3 (10)	75.9 ± 4.1 (10)	73.2 ± 2.6 (10)	68.9 ± 2.3 (10)	68.3 ± 3.4 (10)
Percent of Control			97.4	94.0	88.4	87.7
Triglyceride (mg/dL)	SD 3	70.6 ± 6.3 (10) *	57.3 ± 4.9 (10)	56.3 ± 8.9 (10)	45.9 ± 4.7 (10) **	45.3 ± 3.2 (10) *
Percent of Control			81.2	79.7	65.0	64.2
Alanine Aminotransferase (IU/L)	SD 3	28.50 ± 1.15 (10) **	28.80 ± 1.15 (10)	27.20 ± 0.92 (10)	25.50 ± 0.65 (10)	23.10 ± 0.82 (10) **
Percent of Control			101.05	95.44	89.47	81.05
Alkaline Phosphatase (IU/L)	SD 3	192.9 ± 16.1 (10)	188.4 ± 13.1 (10)	173.0 ± 16.8 (10)	190.7 ± 15.2 (10)	156.6 ± 6.0 (10)
Percent of Control			97.7	89.7	98.9	81.2

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Female

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Creatine Kinase (IU/L)	SD 3	422.7 ± 116.2 (10)	282.7 ± 33.7 (10)	275.9 ± 32.1 (10)	302.7 ± 45.4 (10)	256.2 ± 31.0 (10)
Percent of Control			66.9	65.3	71.6	60.6
Sorbitol Dehydrogenase (IU/L)	SD 3	14.6 ± 1.5 (10)	14.8 ± 0.3 (10)	14.5 ± 0.3 (10)	13.9 ± 1.3 (10)	14.6 ± 0.6 (10)
Percent of Control			101.6	99.0	95.2	100.1
Bile salt/acids (umol/L)	SD 3	13.5 ± 3.5 (10)	17.5 ± 2.9 (10)	15.3 ± 2.7 (10)	15.3 ± 4.1 (10)	10.9 ± 1.3 (10)
Percent of Control			129.4	113.1	113.5	81.1

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Female

	Phase Day	Treatment Groups
		100
Urea Nitrogen (mg/dL)	SD 3	8.6 ± 0.7 (10)
Percent of Control		91.5
Creatinine (mg/dL)	SD 3	0.20 ± 0.00 (10)
Percent of Control		95.24
Glucose (mg/dL)	SD 3	122.0 ± 1.4 (10)
Percent of Control		95.2
Total Protein (g/dL)	SD 3	6.08 ± 0.07 (10)
Percent of Control		97.44
Globulin (g/dL)	SD 3	1.55 ± 0.03 (10)
Percent of Control		94.51
A/G Ratio	SD 3	2.93 ± 0.07 (10)
Percent of Control		104.01
Albumin (g/dL)	SD 3	4.53 ± 0.07 (10)
Percent of Control		98.48
Cholesterol (mg/dL)	SD 3	73.7 ± 2.6 (10)
Percent of Control		94.6
Triglyceride (mg/dL)	SD 3	52.2 ± 4.9 (10)
Percent of Control		73.9
Alanine Aminotransferase (IU/L)	SD 3	23.10 ± 1.14 (10) **
Percent of Control		81.05
Alkaline Phosphatase (IU/L)	SD 3	181.6 ± 11.8 (10)
Percent of Control		94.1

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Female

	Phase Day	Treatment Groups
		100
Creatine Kinase (IU/L)	SD 3	280.6 ± 38.8 (10)
Percent of Control		66.4
Sorbitol Dehydrogenase (IU/L)	SD 3	14.3 ± 0.4 (10)
Percent of Control		97.5
Bile salt/acids (umol/L)	SD 3	7.6 ± 1.1 (10)
Percent of Control		56.0

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Male

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Urea Nitrogen (mg/dL)	SD 23	10.7 ± 0.4 (10)	11.4 ± 0.4 (10)	10.8 ± 0.4 (10)	10.3 ± 0.4 (10)	10.5 ± 0.3 (10)
Percent of Control			106.5	100.9	96.3	98.1
Creatinine (mg/dL)	SD 23	0.26 ± 0.02 (10)	0.28 ± 0.01 (10)	0.23 ± 0.02 (10)	0.27 ± 0.02 (10)	0.28 ± 0.01 (10)
Percent of Control			107.69	88.46	103.85	107.69
Glucose (mg/dL)	SD 23	131.9 ± 4.8 (10) *	125.7 ± 4.0 (10)	128.4 ± 3.7 (10)	131.5 ± 4.2 (10)	131.4 ± 4.6 (10)
Percent of Control			95.3	97.3	99.7	99.6
Total Protein (g/dL)	SD 23	6.39 ± 0.07 (10)	6.45 ± 0.06 (10)	6.33 ± 0.09 (10)	6.36 ± 0.05 (10)	6.38 ± 0.09 (10)
Percent of Control			100.94	99.06	99.53	99.84
Globulin (g/dL)	SD 23	2.02 ± 0.06 (10)	2.04 ± 0.05 (10)	2.05 ± 0.07 (10)	1.98 ± 0.06 (10)	2.11 ± 0.08 (10)
Percent of Control			100.99	101.49	98.02	104.46
A/G Ratio	SD 23	2.18 ± 0.06 (10)	2.17 ± 0.06 (10)	2.11 ± 0.07 (10)	2.23 ± 0.08 (10)	2.05 ± 0.08 (10)
Percent of Control			99.75	96.69	102.40	94.02
Albumin (g/dL)	SD 23	4.37 ± 0.05 (10)	4.41 ± 0.05 (10)	4.28 ± 0.04 (10)	4.38 ± 0.04 (10)	4.27 ± 0.05 (10)
Percent of Control			100.92	97.94	100.23	97.71
Cholesterol (mg/dL)	SD 23	80.4 ± 3.8 (10)	82.1 ± 5.1 (10)	83.2 ± 5.6 (10)	84.4 ± 4.2 (10)	81.7 ± 6.0 (10)
Percent of Control			102.1	103.5	105.0	101.6
Triglyceride (mg/dL)	SD 23	97.9 ± 12.1 (10) **	98.6 ± 15.2 (10)	118.1 ± 21.7 (10)	102.6 ± 13.7 (10)	120.8 ± 9.8 (10)
Percent of Control			100.7	120.6	104.8	123.4
Alanine Aminotransferase (IU/L)	SD 23	25.80 ± 1.03 (10) *	29.40 ± 1.42 (10)	26.80 ± 1.42 (10)	26.60 ± 1.05 (10)	28.50 ± 1.34 (10)
Percent of Control			113.95	103.88	103.10	110.47
Alkaline Phosphatase (IU/L)	SD 23	187.1 ± 11.7 (10) *	181.5 ± 9.2 (10)	180.1 ± 11.7 (10)	215.1 ± 20.1 (10)	220.2 ± 10.0 (10)
Percent of Control			97.0	96.3	115.0	117.7

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Male

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Creatine Kinase (IU/L)	SD 23	286.9 ± 38.8 (10)	271.3 ± 34.6 (10)	354.4 ± 77.3 (10)	329.5 ± 30.2 (10)	289.3 ± 20.4 (10)
Percent of Control			94.6	123.5	114.8	100.8
Sorbitol Dehydrogenase (IU/L)	SD 23	15.5 ± 0.5 (10)	15.2 ± 0.5 (10)	13.6 ± 0.8 (10)	15.0 ± 0.3 (10)	15.3 ± 0.6 (10)
Percent of Control			97.9	87.8	96.3	98.5
Bile salt/acids (umol/L)	SD 23	25.1 ± 3.8 (10)	29.6 ± 7.6 (10)	20.0 ± 4.1 (10)	21.2 ± 3.1 (10)	20.5 ± 3.2 (10)
Percent of Control			118.0	79.6	84.5	81.9

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Male

	Phase Day	Treatment Groups 100
Urea Nitrogen (mg/dL)	SD 23	9.9 ± 0.8 (10)
Percent of Control		92.5
Creatinine (mg/dL)	SD 23	0.28 ± 0.01 (10)
Percent of Control		107.69
Glucose (mg/dL)	SD 23	140.2 ± 5.4 (10)
Percent of Control		106.3
Total Protein (g/dL)	SD 23	6.42 ± 0.08 (10)
Percent of Control		100.47
Globulin (g/dL)	SD 23	2.10 ± 0.06 (10)
Percent of Control		103.96
A/G Ratio	SD 23	2.07 ± 0.06 (10)
Percent of Control		95.16
Albumin (g/dL)	SD 23	4.32 ± 0.05 (10)
Percent of Control		98.86
Cholesterol (mg/dL)	SD 23	83.5 ± 3.7 (10)
Percent of Control		103.9
Triglyceride (mg/dL)	SD 23	133.8 ± 7.8 (10) *
Percent of Control		136.7
Alanine Aminotransferase (IU/L)	SD 23	30.30 ± 1.34 (10)
Percent of Control		117.44
Alkaline Phosphatase (IU/L)	SD 23	214.1 ± 14.8 (10)
Percent of Control		114.4

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	Phase Day	Treatment Groups
		100
Creatine Kinase (IU/L)	SD 23	358.0 ± 83.3 (10)
Percent of Control		124.8
Sorbitol Dehydrogenase (IU/L)	SD 23	15.2 ± 0.9 (10)
Percent of Control		97.6
Bile salt/acids (umol/L)	SD 23	23.5 ± 3.2 (10)
Percent of Control		93.5

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Female

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Urea Nitrogen (mg/dL)	SD 23	12.3 ± 0.7 (10)	13.8 ± 0.9 (10)	13.1 ± 0.6 (10)	12.9 ± 0.9 (10)	12.6 ± 0.6 (9)
Percent of Control			112.2	106.5	104.9	102.1
Creatinine (mg/dL)	SD 23	0.30 ± 0.01 (10)	0.32 ± 0.01 (10)	0.32 ± 0.01 (10)	0.30 ± 0.00 (10)	0.30 ± 0.00 (9)
Percent of Control			106.67	106.67	100.00	100.00
Glucose (mg/dL)	SD 23	123.5 ± 2.3 (10)	127.4 ± 6.1 (10)	125.7 ± 5.5 (10)	122.4 ± 2.6 (10)	123.4 ± 2.9 (9)
Percent of Control			103.2	101.8	99.1	100.0
Total Protein (g/dL)	SD 23	6.68 ± 0.10 (10)	6.62 ± 0.11 (10)	6.68 ± 0.14 (10)	6.53 ± 0.06 (10)	6.66 ± 0.12 (9)
Percent of Control			99.10	100.00	97.75	99.63
Globulin (g/dL)	SD 23	1.90 ± 0.05 (10)	1.83 ± 0.05 (10)	1.86 ± 0.06 (10)	1.78 ± 0.03 (10)	1.89 ± 0.06 (9)
Percent of Control			96.32	97.89	93.68	99.42
A/G Ratio	SD 23	2.53 ± 0.05 (10) *	2.63 ± 0.07 (10)	2.61 ± 0.06 (10)	2.68 ± 0.06 (10)	2.54 ± 0.09 (9)
Percent of Control			104.20	103.22	106.00	100.66
Albumin (g/dL)	SD 23	4.78 ± 0.05 (10)	4.79 ± 0.07 (10)	4.82 ± 0.08 (10)	4.75 ± 0.06 (10)	4.77 ± 0.10 (9)
Percent of Control			100.21	100.84	99.37	99.72
Cholesterol (mg/dL)	SD 23	64.4 ± 4.2 (10)	61.5 ± 3.6 (10)	60.0 ± 3.8 (10)	56.9 ± 2.0 (10)	60.7 ± 3.1 (9)
Percent of Control			95.5	93.2	88.4	94.2
Triglyceride (mg/dL)	SD 23	62.6 ± 8.0 (10)	61.6 ± 6.6 (10)	64.3 ± 7.8 (10)	55.3 ± 5.8 (10)	59.0 ± 7.0 (9)
Percent of Control			98.4	102.7	88.3	94.2
Alanine Aminotransferase (IU/L)	SD 23	24.40 ± 1.56 (10)	24.70 ± 0.91 (10)	24.70 ± 0.75 (10)	24.10 ± 1.79 (10)	25.56 ± 1.80 (9)
Percent of Control			101.23	101.23	98.77	104.74
Alkaline Phosphatase (IU/L)	SD 23	102.6 ± 11.3 (10) *	100.4 ± 6.3 (10)	96.4 ± 7.9 (10)	109.0 ± 8.7 (10)	99.7 ± 6.4 (9)
Percent of Control			97.9	94.0	106.2	97.1

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	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Creatine Kinase (IU/L)	SD 23	238.9 ± 22.8 (10)	281.0 ± 28.9 (10)	383.7 ± 96.5 (10)	281.0 ± 49.5 (10)	283.8 ± 39.5 (9)
Percent of Control			117.6	160.6	117.6	118.8
Sorbitol Dehydrogenase (IU/L)	SD 23	15.1 ± 0.4 (10)	15.6 ± 0.6 (10)	14.8 ± 1.3 (10)	15.8 ± 0.8 (10)	14.2 ± 0.8 (9)
Percent of Control			103.3	97.7	104.4	94.3
Bile salt/acids (umol/L)	SD 23	16.2 ± 2.5 (10)	16.6 ± 3.0 (10)	11.6 ± 2.0 (10)	17.4 ± 5.9 (10)	21.7 ± 2.9 (9)
Percent of Control			102.3	71.6	107.6	134.1

Experiment Number: C08010-01
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary
Test Compound: 2,3-Pentanedione
CAS Number: 600-14-6

Date Report Requested: 05/08/2017
Time Report Requested: 14:59:31
Lab: NTP

Female

	Phase Day	Treatment Groups
		100
Urea Nitrogen (mg/dL)	SD 23	12.4 ± 0.7 (10)
Percent of Control		100.8
Creatinine (mg/dL)	SD 23	0.30 ± 0.00 (10)
Percent of Control		100.00
Glucose (mg/dL)	SD 23	126.9 ± 2.3 (10)
Percent of Control		102.8
Total Protein (g/dL)	SD 23	6.64 ± 0.13 (10)
Percent of Control		99.40
Globulin (g/dL)	SD 23	2.04 ± 0.06 (10)
Percent of Control		107.37
A/G Ratio	SD 23	2.27 ± 0.07 (10)
Percent of Control		89.81
Albumin (g/dL)	SD 23	4.60 ± 0.10 (10)
Percent of Control		96.23
Cholesterol (mg/dL)	SD 23	65.0 ± 3.3 (10)
Percent of Control		100.9
Triglyceride (mg/dL)	SD 23	70.3 ± 6.6 (10)
Percent of Control		112.3
Alanine Aminotransferase (IU/L)	SD 23	26.30 ± 1.34 (10)
Percent of Control		107.79
Alkaline Phosphatase (IU/L)	SD 23	120.8 ± 5.5 (10)
Percent of Control		117.7

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Female

	Phase Day	Treatment Groups
		100
Creatine Kinase (IU/L)	SD 23	256.0 ± 31.0 (10)
Percent of Control		107.2
Sorbitol Dehydrogenase (IU/L)	SD 23	14.6 ± 0.6 (10)
Percent of Control		96.5
Bile salt/acids (umol/L)	SD 23	13.3 ± 2.1 (10)
Percent of Control		82.0

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Male

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Urea Nitrogen (mg/dL)	SD 93	15.5 ± 0.6 (10)	16.2 ± 0.5 (10)	16.1 ± 0.6 (10)	16.2 ± 0.4 (10)	16.8 ± 0.5 (10)
Percent of Control			104.5	103.9	104.5	108.4
Creatinine (mg/dL)	SD 93	0.29 ± 0.02 (10)	0.31 ± 0.01 (10)	0.32 ± 0.01 (10)	0.31 ± 0.01 (10)	0.32 ± 0.02 (10)
Percent of Control			106.90	110.34	106.90	110.34
Glucose (mg/dL)	SD 93	120.3 ± 4.1 (10)	126.2 ± 6.2 (10)	135.1 ± 6.0 (10)	129.4 ± 8.4 (10)	132.8 ± 5.5 (10)
Percent of Control			104.9	112.3	107.6	110.4
Total Protein (g/dL)	SD 93	6.77 ± 0.07 (10)	7.05 ± 0.09 (10)	6.83 ± 0.09 (10)	6.96 ± 0.13 (10)	6.96 ± 0.10 (10)
Percent of Control			104.14	100.89	102.81	102.81
Globulin (g/dL)	SD 93	2.27 ± 0.07 (10)	2.48 ± 0.07 (10)	2.30 ± 0.04 (10)	2.41 ± 0.10 (10)	2.49 ± 0.08 (10)
Percent of Control			109.25	101.32	106.17	109.69
A/G Ratio	SD 93	2.00 ± 0.06 (10) **	1.85 ± 0.06 (10)	1.97 ± 0.04 (10)	1.92 ± 0.09 (10)	1.81 ± 0.07 (10) *
Percent of Control			92.78	98.76	95.85	90.61
Albumin (g/dL)	SD 93	4.50 ± 0.04 (10)	4.57 ± 0.07 (10)	4.53 ± 0.06 (10)	4.55 ± 0.07 (10)	4.47 ± 0.06 (10)
Percent of Control			101.56	100.67	101.11	99.33
Cholesterol (mg/dL)	SD 93	87.3 ± 3.9 (10)	87.5 ± 4.0 (10)	90.4 ± 4.2 (10)	96.5 ± 7.4 (10)	86.8 ± 5.5 (10)
Percent of Control			100.2	103.6	110.5	99.4
Triglyceride (mg/dL)	SD 93	91.2 ± 9.3 (10)	115.9 ± 12.9 (10)	124.3 ± 12.1 (10)	109.9 ± 12.0 (10)	122.9 ± 17.7 (10)
Percent of Control			127.1	136.3	120.5	134.8
Alanine Aminotransferase (IU/L)	SD 93	37.00 ± 2.31 (10)	30.90 ± 1.03 (10)	34.70 ± 3.31 (10)	31.00 ± 1.26 (10)	37.20 ± 4.73 (10)
Percent of Control			83.51	93.78	83.78	100.54
Alkaline Phosphatase (IU/L)	SD 93	114.7 ± 10.5 (10)	121.9 ± 8.0 (10)	135.8 ± 8.8 (10)	128.9 ± 8.6 (10)	144.8 ± 15.2 (10)
Percent of Control			106.3	118.4	112.4	126.2

Experiment Number: C08010-01
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary
Test Compound: 2,3-Pentanedione
CAS Number: 600-14-6

Date Report Requested: 05/08/2017
Time Report Requested: 14:59:31
Lab: NTP

Male

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Creatine Kinase (IU/L)	SD 93	209.0 ± 46.1 (10)	138.9 ± 20.3 (10)	177.3 ± 24.7 (9)	169.0 ± 19.3 (10)	218.5 ± 43.4 (10)
Percent of Control			66.5	84.8	80.9	104.5
Sorbitol Dehydrogenase (IU/L)	SD 93	15.0 ± 0.6 (10)	14.3 ± 0.7 (10)	13.5 ± 1.1 (10)	14.0 ± 0.7 (10)	16.9 ± 2.6 (10)
Percent of Control			95.1	89.9	93.0	112.3
Bile salt/acids (umol/L)	SD 93	7.9 ± 2.7 (10)	7.0 ± 1.5 (10)	6.4 ± 1.7 (10)	7.7 ± 2.9 (10)	5.3 ± 1.6 (10)
Percent of Control			88.5	80.8	97.6	67.4

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Male

	Phase Day	Treatment Groups 100
Urea Nitrogen (mg/dL)	SD 93	15.9 ± 0.7 (10)
Percent of Control		102.6
Creatinine (mg/dL)	SD 93	0.31 ± 0.01 (10)
Percent of Control		106.90
Glucose (mg/dL)	SD 93	136.0 ± 7.0 (10)
Percent of Control		113.1
Total Protein (g/dL)	SD 93	6.84 ± 0.06 (10)
Percent of Control		101.03
Globulin (g/dL)	SD 93	2.44 ± 0.04 (10)
Percent of Control		107.49
A/G Ratio	SD 93	1.81 ± 0.04 (10) *
Percent of Control		90.44
Albumin (g/dL)	SD 93	4.40 ± 0.05 (10)
Percent of Control		97.78
Cholesterol (mg/dL)	SD 93	76.4 ± 2.8 (10)
Percent of Control		87.5
Triglyceride (mg/dL)	SD 93	117.9 ± 18.2 (10)
Percent of Control		129.3
Alanine Aminotransferase (IU/L)	SD 93	33.90 ± 1.73 (10)
Percent of Control		91.62
Alkaline Phosphatase (IU/L)	SD 93	130.9 ± 9.0 (10)
Percent of Control		114.1

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Male

	Phase Day	Treatment Groups
		100
Creatine Kinase (IU/L)	SD 93	241.7 ± 52.0 (10)
Percent of Control		115.6
Sorbitol Dehydrogenase (IU/L)	SD 93	15.8 ± 0.9 (10)
Percent of Control		105.1
Bile salt/acids (umol/L)	SD 93	15.0 ± 4.3 (10)
Percent of Control		190.5

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Female

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Urea Nitrogen (mg/dL)	SD 94	16.1 ± 0.5 (10)	15.7 ± 0.4 (10)	18.3 ± 1.0 (10)	17.2 ± 0.7 (10)	17.4 ± 0.7 (10)
Percent of Control			97.5	113.7	106.8	108.1
Creatinine (mg/dL)	SD 94	0.35 ± 0.02 (10)	0.35 ± 0.02 (10)	0.40 ± 0.02 (10)	0.38 ± 0.01 (10)	0.38 ± 0.01 (10)
Percent of Control			100.00	114.29	108.57	108.57
Glucose (mg/dL)	SD 94	129.1 ± 6.0 (10)	129.6 ± 6.9 (10)	121.0 ± 4.0 (10)	121.7 ± 5.9 (10)	126.0 ± 4.1 (10)
Percent of Control			100.4	93.7	94.3	97.6
Total Protein (g/dL)	SD 94	7.26 ± 0.14 (10)	7.29 ± 0.13 (10)	7.24 ± 0.10 (10)	7.41 ± 0.11 (10)	7.40 ± 0.08 (10)
Percent of Control			100.41	99.72	102.07	101.93
Globulin (g/dL)	SD 94	1.90 ± 0.06 (10) **	1.89 ± 0.10 (10)	1.97 ± 0.05 (10)	1.90 ± 0.09 (10)	2.02 ± 0.03 (10)
Percent of Control			99.47	103.68	100.00	106.32
A/G Ratio	SD 94	2.84 ± 0.08 (10) **	3.02 ± 0.38 (10)	2.69 ± 0.06 (10)	3.03 ± 0.32 (10)	2.67 ± 0.07 (10)
Percent of Control			106.40	94.59	106.55	93.99
Albumin (g/dL)	SD 94	5.36 ± 0.09 (10)	5.40 ± 0.19 (10)	5.27 ± 0.06 (10)	5.51 ± 0.18 (10)	5.38 ± 0.08 (10)
Percent of Control			100.75	98.32	102.80	100.37
Cholesterol (mg/dL)	SD 94	57.3 ± 3.2 (10)	64.9 ± 3.2 (10)	59.8 ± 4.2 (10)	65.9 ± 5.3 (10)	64.2 ± 3.6 (10)
Percent of Control			113.3	104.4	115.0	112.0
Triglyceride (mg/dL)	SD 94	57.9 ± 7.5 (10) *	48.2 ± 3.1 (10)	55.8 ± 4.6 (10)	64.8 ± 5.9 (10)	59.9 ± 4.5 (10)
Percent of Control			83.2	96.4	111.9	103.5
Alanine Aminotransferase (IU/L)	SD 94	30.20 ± 1.44 (10)	30.00 ± 2.80 (10)	31.90 ± 4.10 (10)	28.40 ± 2.02 (10)	30.20 ± 1.38 (10)
Percent of Control			99.34	105.63	94.04	100.00
Alkaline Phosphatase (IU/L)	SD 94	76.6 ± 8.2 (10)	67.1 ± 7.0 (10)	67.9 ± 9.0 (10)	71.9 ± 7.8 (10)	72.7 ± 6.0 (10)
Percent of Control			87.6	88.6	93.9	94.9

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Female

	Phase Day	Treatment Groups (ppm)				
		0	6.25	12.5	25	50
Creatine Kinase (IU/L)	SD 94	338.9 ± 118.2 (10)	300.8 ± 79.1 (10)	288.7 ± 51.0 (10)	201.8 ± 15.3 (10)	162.2 ± 22.5 (10)
Percent of Control			88.8	85.2	59.5	47.9
Sorbitol Dehydrogenase (IU/L)	SD 94	16.1 ± 1.1 (10)	16.0 ± 0.3 (10)	16.3 ± 0.8 (10)	16.1 ± 0.7 (10)	14.3 ± 0.5 (10)
Percent of Control			99.8	101.7	100.2	89.0
Bile salt/acids (umol/L)	SD 94	6.1 ± 1.4 (10)	5.5 ± 1.6 (10)	5.6 ± 1.6 (10)	7.3 ± 1.6 (10)	3.7 ± 0.7 (10)
Percent of Control			90.3	92.3	118.7	60.6

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Female

	Phase Day	Treatment Groups 100
Urea Nitrogen (mg/dL)	SD 94	16.7 ± 1.0 (10)
Percent of Control		103.7
Creatinine (mg/dL)	SD 94	0.36 ± 0.02 (10)
Percent of Control		102.86
Glucose (mg/dL)	SD 94	127.7 ± 3.3 (10)
Percent of Control		98.9
Total Protein (g/dL)	SD 94	7.24 ± 0.11 (10)
Percent of Control		99.72
Globulin (g/dL)	SD 94	2.21 ± 0.09 (10) **
Percent of Control		116.32
A/G Ratio	SD 94	2.30 ± 0.08 (10) **
Percent of Control		81.09
Albumin (g/dL)	SD 94	5.03 ± 0.05 (10) *
Percent of Control		93.84
Cholesterol (mg/dL)	SD 94	58.4 ± 2.5 (10)
Percent of Control		101.9
Triglyceride (mg/dL)	SD 94	70.2 ± 8.9 (10)
Percent of Control		121.2
Alanine Aminotransferase (IU/L)	SD 94	30.10 ± 1.97 (10)
Percent of Control		99.67
Alkaline Phosphatase (IU/L)	SD 94	82.3 ± 8.6 (10)
Percent of Control		107.4

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 05/08/2017

Time Report Requested: 14:59:31

Lab: NTP

Female

	Phase Day	Treatment Groups
		100
Creatine Kinase (IU/L)	SD 94	227.2 ± 33.9 (10)
Percent of Control		67.0
Sorbitol Dehydrogenase (IU/L)	SD 94	15.4 ± 1.1 (10)
Percent of Control		95.7
Bile salt/acids (umol/L)	SD 94	6.6 ± 2.0 (10)
Percent of Control		108.2

Experiment Number: C08010-01

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Wistar Han

PA41: Clinical Chemistry Summary

Test Compound: 2,3-Pentanedione

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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 ****