Experiment Number: 99007-01
Test Type: 14-DAY
Route: DOSED FEED
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

Date Report Requested: 10/21/2014
Time Report Requested: 18:17:09
First Dose M/F: NA / NA
Lab: MBA

C Number: C99007
Lock Date: 10/11/2001
Cage Range: All
Date Range: All
Reasons For Removal: All
Removal Date Range: All
Treatment Groups: All
Study Gender: Both
PWG Approval Date: NONE
P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

**Test Compound:** Goldenseal root powder
**CAS Number:** GOLDENSEALRT

**Experiment Number:** 99007-01
**Test Type:** 14-DAY
**Route:** DOSED FEED
**Species/Strain:** Rat/F 344/N

**Date Report Requested:** 10/21/2014
**Time Report Requested:** 18:17:09
**First Dose M/F:** NA / NA
**Lab:** MBA

### F 344/N Rat Male VEHICLE CONTROL

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**Alimentary System**

- **Liver**
  - Centrilobular, Hepatocyte, Vacuolization
  - 2 2 2 2 2
  - 5 2.0

**Cardiovascular System**

- NONE

**Endocrine System**

- NONE

**General Body System**

- NONE

**Genital System**

- NONE

**Hematopoietic System**

- NONE

**Integumentary System**

- NONE

**Musculoskeletal System**

- NONE

**Notes**

- Total animals with tissue examined microscopically: 5
- Total animals with lesion and mean severity grade: 2.0

**Legend**

- * ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
- + ..Tissue examined microscopically
- M ..Missing tissue
- A ..Autolysis precludes evaluation
- X ..Lesion present
- 1-4 ..Lesion qualified as:
  1) Minimal
  2) Mild
  3) Moderate
  4) Marked
- I ..Insufficient tissue
- BLANK ..Not examined microscopically

Page 2
**Experiment Number:** 99007-01  
**Test Type:** 14-DAY  
**Route:** DOSED FEED  
**Species/Strain:** Rat/F 344/N  

**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT  

**Date Report Requested:** 10/21/2014  
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**F 344/N Rat Male**  
**VEHICLE CONTROL**

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* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
M ..Missing tissue
X ..Lesion present
A ..Autolysis precludes evaluation
I ..Insufficient tissue
BLANK ..Not examined microscopically
1-4 ..Lesion qualified as:
1) Minimal  2) Mild  3) Moderate  4) Marked
## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT  

### DAY ON TEST

**F 344/N Rat Male**  
**1560 PPM**

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* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
X ..Lesion present
I ..Insufficient tissue
M ..Missing tissue
A ..Autolysis precludes evaluation
BLANK ..Not examined microscopically

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1-4 ..Lesion qualified as:
1) Minimal  
2) Mild  
3) Moderate  
4) Marked
Experiment Number: 99007-01
Test Type: 14-DAY
Route: DOSED FEED
Species/Strain: Rat/F 344/N

Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

Date Report Requested: 10/21/2014
Time Report Requested: 18:17:09
First Dose M/F: NA / NA
Lab: MBA

DAY ON TEST
F 344/N Rat Male
1560 PPM

ANIMAL ID

*TOTALS

Respiratory System
NONE

Special Senses System
NONE

Urinary System
NONE

*..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+..Tissue examined microscopically
M ..Missing tissue
1-4 ..Lesion qualified as:
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A ..Autolysis precludes evaluation
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Page 5
Experiment Number: 99007-01
Test Type: 14-DAY
Route: DOSED FEED
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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CAS Number: GOLDENSEALRT

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*TOTALS

**Alimentary System**

- Liver
  - Hepatodiaphragmatic Nodule: 2

**Cardiovascular System**

NONE

**Endocrine System**

NONE

**General Body System**

NONE

**Genital System**

NONE

**Hematopoietic System**

NONE

**Integumentary System**

NONE

**Musculoskeletal System**

NONE

**Nervous System**

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
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1-4 ..Lesion qualified as:  
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1) Minimal 2) Mild 3) Moderate 4) Marked  
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Experiment Number: 99007-01  
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL  
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Date Report Requested: 10/21/2014  
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*TOTALS

NONE
Respiratory System
NONE
Special Senses System
NONE
Urinary System
NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically  
X ..Lesion present  
I ..Insufficient tissue  
M ..Missing tissue  
A ..Autolysis precludes evaluation  
BLANK ..Not examined microscopically  

1-4 ..Lesion qualified as:
   1) Minimal  3) Moderate
   2) Mild  4) Marked
DAY ON TEST

F 344/N Rat Male
6250 PPM

ANIMAL ID

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*TOTALS

*..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+..Tissue examined microscopically
X..Lesion present
I..Insufficient tissue
M..Missing tissue
A..Autolysis precludes evaluation
BLANK..Not examined microscopically
**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT

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2) Mild  4) Marked
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**F 344/N Rat Male**  
12500 PPM

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**Alimentary System**

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**Cytoplasmic**

**Cardiovascular System**

**NONE**

**Endocrine System**

**NONE**

**General Body System**

**NONE**

**Genital System**

**NONE**

**Hematopoietic System**

**NONE**

**Integumentary System**

**NONE**

**Musculoskeletal System**

**NONE**

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* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
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2) Mild  
3) Moderate  
4) Marked  
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BLANK ..Not examined microscopically
Experiment Number: 99007-01
Test Type: 14-DAY
Route: DOSED FEED
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

Date Report Requested: 10/21/2014
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First Dose M/F: NA / NA
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*TOTALS

Nervous System
NONE

Respiratory System
NONE

Special Senses System
NONE

Urinary System
NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
M ..Missing tissue
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**Experiment Number:** 99007-01  
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**Species/Strain:** Rat/F 344/N  
**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT

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**F 344/N Rat Male**  
**25000 PPM**

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*TOTALS*

**Alimentary System**

- **Liver**: + + + + + 5  
- **Centrilobular, Hepatocyte, Hypertrophy**: 1 1 1 3 1.0

**Cardiovascular System**

NONE

**Endocrine System**

NONE

**General Body System**

NONE

**Genital System**

NONE

**Hematopoietic System**

NONE

**Integumentary System**

NONE

**Musculoskeletal System**

NONE

**Nervous System**

NONE

---

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ ..Tissue examined microscopically  
M ..Missing tissue  
1-4 ..Lesion qualified as:  
X ..Lesion present  
A ..Autolysis precludes evaluation  
1) Minimal 3) Moderate  
I ..Insufficient tissue  
BLANK ..Not examined microscopically  
2) Mild 4) Marked  

Page 12
P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

Experiment Number: 99007-01
Test Type: 14-DAY
Route: DOSED FEED
Species/Strain: Rat/F 344/N

Date Report Requested: 10/21/2014
Time Report Requested: 18:17:09
First Dose M/F: NA / NA
Lab: MBA

F 344/N Rat Male
25000 PPM

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*TOTALS*

Respiratory System
NONE

Special Senses System
NONE

Urinary System
NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
M ..Missing tissue
1-4 ..Lesion qualified as:
A ..Autolysis precludes evaluation
1) Minimal  3) Moderate
X ..Lesion present
I ..Insufficient tissue
BLANK ..Not examined microscopically
2) Mild  4) Marked

Page 13
Experiment Number: 99007-01
Test Type: 14-DAY
Route: DOSED FEED
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

Date Report Requested: 10/21/2014
Time Report Requested: 18:17:09
First Dose M/F: NA / NA
Lab: MBA

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F 344/N Rat Male
50000 PPM

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*TOTALS

Alimentary System

Liver
Centrilobular, Hepatocyte, Hypertrophy 2 3 3 3 2 5 2.6

Cardiovascular System
NONE

Endocrine System
NONE

General Body System
NONE

Genital System
NONE

Hematopoietic System
NONE

Integumentary System
NONE

Musculoskeletal System
NONE

Nervous System
NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
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X ..Lesion present
A ..Autolysis precludes evaluation
I ..Insufficient tissue
BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:
1) Minimal  3) Moderate
2) Mild  4) Marked
**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT

---

**F 344/N Rat Male**  
**50000 PPM**

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|             | 1 | 2 | 3 | 4 | 5 | **TOTALS**

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**Respiratory System**  
NONE

**Special Senses System**  
NONE

**Urinary System**  
NONE

---

***END OF MALE DATA***

---

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ ..Tissue examined microscopically  
M ..Missing tissue  
1-4 ..Lesion qualified as:  1) Minimal  3) Moderate
X ..Lesion present  
A ..Autolysis precludes evaluation  2) Mild  4) Marked
I ..Insufficient tissue  
BLANK ..Not examined microscopically
P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

F 344/N Rat Female
VEHICLE CONTROL

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*TOTALS

**Alimentary System**

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**Cardiovascular System**

NONE

**Endocrine System**

NONE

**General Body System**

NONE

**Genital System**

NONE

**Hematopoietic System**

NONE

**Integumentary System**

NONE

**Musculoskeletal System**

NONE

**Nervous System**

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
M ..Missing tissue
1-4 ..Lesion qualified as:
1) Minimal  3) Moderate
3) Moderate  4) Marked
X ..Lesion present
A ..Autolysis precludes evaluation
2) Mild
I ..Insufficient tissue
BLANK ..Not examined microscopically
P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

**Experiment Number:** 99007-01
**Test Type:** 14-DAY
**Route:** DOSED FEED
**Species/Strain:** Rat/F 344/N

**Date Report Requested:** 10/21/2014
**Time Report Requested:** 18:17:09
**First Dose M/F:** NA / NA
**Lab:** MBA

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**F 344/N Rat Female**

**VEHICLE CONTROL**

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**Respiratory System**

NONE

**Special Senses System**

NONE

**Urinary System**

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
M ..Missing tissue
X ..Lesion present
A ..Autolysis precludes evaluation
I ..Insufficient tissue
BLANK ..Not examined microscopically
1-4 ..Lesion qualified as:
   1) Minimal
   2) Mild
   3) Moderate
   4) Marked
Experiment Number: 99007-01
Test Type: 14-DAY
Route: DOSED FEED
Species/Strain: Rat/F 344/N

Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

Date Report Requested: 10/21/2014
Time Report Requested: 18:17:09
First Dose M/F: NA / NA
Lab: MBA

F 344/N Rat Female
1560 PPM

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*TOTALS*

Alimentary System
- Liver
  - Hepatodiaphragmatic Nodule: + 1

Cardiovascular System
- NONE

Endocrine System
- NONE

General Body System
- NONE

Genital System
- NONE

Hematopoietic System
- NONE

Integumentary System
- NONE

Musculoskeletal System
- NONE

Nervous System
- NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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M ..Missing tissue
1-4 ..Lesion qualified as:
1) Minimal  3) Moderate
2) Mild     4) Marked
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BLANK ..Not examined microscopically
Experiment Number: 99007-01  
Test Type: 14-DAY  
Route: DOSED FEED  
Species/Strain: Rat/F 344/N

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT

Date Report Requested: 10/21/2014  
Time Report Requested: 18:17:09  
First Dose M/F: NA / NA  
Lab: MBA

### F 344/N Rat Female  
1560 PPM

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*TOTALS*

**Respiratory System**  
NONE

**Special Senses System**  
NONE

**Urinary System**  
NONE

---

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ ..Tissue examined microscopically  
M ..Missing tissue  
1-4 ..Lesion qualified as:  
1) Minimal  
2) Mild  
3) Moderate  
4) Marked  
X ..Lesion present  
A ..Autolysis precludes evaluation  
I ..Insufficient tissue  
BLANK ..Not examined microscopically
DAY ON TEST

F 344/N Rat Female
3121 PPM

ANIMAL ID

*TOTALS

Alimentary System
NONE

Cardiovascular System
NONE

Endocrine System
NONE

General Body System
NONE

Genital System
NONE

Hematopoietic System
NONE

Integumentary System
NONE

Musculoskeletal System
NONE

Nervous System
NONE

* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ Tissue examined microscopically
M Missing tissue
X Lesion present
A Autolysis precludes evaluation
I Insufficient tissue
BLANK Not examined microscopically

1-4 Lesion qualified as:
1) Minimal
2) Mild
3) Moderate
4) Marked

Page 20
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### Respiratory System
- **NONE**

### Special Senses System
- **NONE**

### Urinary System
- **NONE**

---

### Non-Neoplastic Lesions by Individual Animal

| Test Compound: Goldenseal root powder |
| CAS Number: GOLDENSEALRT |

---

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ ..Tissue examined microscopically
X ..Lesion present
I ..Insufficient tissue
M ..Missing tissue
A ..Autolysis precludes evaluation
BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:
1) Minimal  3) Moderate
2) Mild      4) Marked

---

Page 21
**Experiment Number:** 99007-01  
**Test Type:** 14-DAY  
**Route:** DOSED FEED  
**Species/Strain:** Rat/F 344/N

---

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**  
**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT

**Date Report Requested:** 10/21/2014  
**Time Report Requested:** 18:17:09  
**First Dose M/F:** NA / NA  
**Lab:** MBA

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**F 344/N Rat Female**  
**6250 PPM**

**ANIMAL ID**  

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* Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ Tissue examined microscopically
X Lesion present
I Insufficient tissue
M Missing tissue
A Autolysis precludes evaluation
BLANK Not examined microscopically

1-4 Lesion qualified as:
1) Minimal
2) Mild
3) Moderate
4) Marked

---

Page 22
**Experiment Number:** 99007-01  
**Test Type:** 14-DAY  
**Route:** DOSED FEED  
**Species/Strain:** Rat/F 344/N  

---

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**  
**Test Compound:** Goldenseal root powder  
**CAS Number:** GOLDENSEALRT

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**Date Report Requested:** 10/21/2014  
**Time Report Requested:** 18:17:09  
**First Dose M/F:** NA / NA  
**Lab:** MBA

---

**F 344/N Rat Female**  
**6250 PPM**

**ANIMAL ID**  

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<td><strong>Respiratory System</strong></td>
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<tr>
<td><strong>Urinary System</strong></td>
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* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ ..Tissue examined microscopically  
X ..Lesion present  
I ..Insufficient tissue  
M ..Missing tissue  
A ..Autolysis precludes evaluation  
BLANK ..Not examined microscopically  
1-4 ..Lesion qualified as:  
1) Minimal  
2) Mild  
3) Moderate  
4) Marked

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Page 23
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**F 344/N Rat Female**  
**12500 PPM**

---

### Alimentary System

- Liver: + + + + + 5  
- Hepatodiaphragmatic Nodule: 2 1 2.0

### Cardiovascular System

NONE

### Endocrine System

NONE

### General Body System

NONE

### Genital System

NONE

### Hematopoietic System

NONE

### Integumentary System

NONE

### Musculoskeletal System

NONE

### Nervous System

NONE

---

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Experiment Number: 99007-01  
Test Type: 14-DAY  
Route: DOSED FEED  
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder  
CAS Number: GOLDENSEALRT

Date Report Requested: 10/21/2014  
Time Report Requested: 18:17:09  
First Dose M/F: NA / NA  
Lab: MBA

### DAY ON TEST

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*TOTALS

**Respiratory System**

NONE

**Special Senses System**

NONE

**Urinary System**

NONE

---

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F 344/N Rat Female
25000 PPM

ANIMAL ID

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*TOTALS

Alimentary System

Liver
Centrilobular, Hepatocyte, Hypertrophy

Cardiovascular System
NONE

Endocrine System
NONE

General Body System
NONE

Genital System
NONE

Hematopoietic System
NONE

Integumentary System
NONE

Musculoskeletal System
NONE

Nervous System

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder
CAS Number: GOLDENSEALRT

F 344/N Rat Female
25000 PPM

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*TOTALS

Respiratory System
NONE

Special Senses System
NONE

Urinary System
NONE

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Page 27
Experiment Number: 99007-01  
Test Type: 14-DAY  
Route: DOSED FEED  
Species/Strain: Rat/F 344/N  

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ANIMAL ID  
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6 7 8 9 0  

*TOTALS  

Alimentary System  
Liver + + + + + 5  
Centrilobular, Hepatocyte, Hypertrophy 2 2 3 2 2 5 2.2  

Cardiovascular System  
NONE  

Endocrine System  
NONE  

General Body System  
NONE  

Genital System  
NONE  

Hematopoietic System  
NONE  

Integumentary System  
NONE  

Musculoskeletal System  
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Nervous System  
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CAS Number: GOLDENSEALRT

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Time Report Requested: 18:17:10
First Dose M/F: NA / NA
Lab: MBA

---

**F 344/N Rat Female**

**50000 PPM**

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*TOTALS*

---

**Respiratory System**

NONE

**Special Senses System**

NONE

**Urinary System**

NONE

**END OF REPORT**

---

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