

**Experiment Number:** 99007-03

**Test Type:** 90-DAY

**Species/Strain:** Rat/F 344/N

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

**Test Compound:** Goldenseal root powder

**CAS Number:** GOLDENSEALRT

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 02:35:41

**First Dose M/F:** NA / NA

**Lab:** SRI

**C Number:**

C99007B

**Lock Date:**

09/23/2002

**Cage Range:**

All

**Date Range:**

All

**Reasons For Removal:**

All

**Removal Date Range:**

All

**Treatment Groups:**

All

**Study Gender:**

Both

**PWG Approval Date**

NONE

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CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:41

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
0 PPM

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---|---|---|---|---|---|---|---|---|---|
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\*TOTALS

Alimentary System

|   |   |   |   |   |   |   |   |   |   |   |       |
|---|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus                               | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Large, Cecum                  | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Large, Colon                  | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Large, Rectum                 | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Small, Duodenum               | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Small, Ileum                  | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Small, Jejunum                | + | + | + | + | + | + | + | + | + | + | 10    |
| Liver                                   | + | + | + | + | + | + | + | + | + | + | 10    |
| Fatty Change                            |   |   |   |   |   |   |   | 1 |   |   | 1 1.0 |
| Hematopoietic Cell Proliferation, Focal |   |   |   |   |   |   |   |   | 1 |   | 1 1.0 |
| Hepatocyte, Vacuolization Cytoplasmic   |   |   |   |   |   | 1 |   |   |   |   | 1 1.0 |
| Pancreas                                | + | + | + | + | + | + | + | + | + | + | 10    |
| Acinus, Atrophy, Focal                  |   |   |   |   |   |   | 2 | 1 |   |   | 2 1.5 |
| Salivary Glands                         | + | + | + | + | + | + | + | + | + | + | 10    |
| Parotid Gl, Basophilic Focus, Multiple  |   |   | 1 | 1 |   | 1 | 1 | 1 |   | 1 | 7 1.0 |
| Stomach, Forestomach                    | + | + | + | + | + | + | + | + | + | + | 10    |
| Stomach, Glandular                      | + | + | + | + | + | + | + | + | + | + | 10    |

Cardiovascular System

|                       |   |   |   |   |   |   |   |   |   |   |       |
|-----------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Heart                 | + | + | + | + | + | + | + | + | + | + | 10    |
| Cardiomyopathy, Focal |   | 1 |   |   |   |   |   |   |   | 1 | 2 1.0 |

\* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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Species/Strain: Rat/F 344/N

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CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:41

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
0 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Endocrine System

|                      |   |   |   |   |   |   |   |   |   |   |       |
|----------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Adrenal Cortex       | + | + | + | + | + | + | + | + | + | + | 10    |
| Adrenal Medulla      | + | + | + | + | + | + | + | + | + | + | 10    |
| Parathyroid Gland    | + | + | + | + | + | + | + | + | + | + | 10    |
| Pituitary Gland      | + | + | + | + | + | + | + | + | + | + | 10    |
| Thyroid Gland        | + | + | + | + | + | + | + | + | + | + | 10    |
| Ultimobranchial Cyst |   |   |   | 1 |   |   |   |   |   |   | 1 1.0 |

General Body System

NONE

Genital System

|                 |   |   |   |   |   |   |   |   |   |   |       |
|-----------------|---|---|---|---|---|---|---|---|---|---|-------|
| Epididymis      | + | + | + | + | + | + | + | + | + | + | 10    |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 10    |
| Duct, Ectasia   |   |   |   |   |   |   |   | 2 |   |   | 1 2.0 |
| Prostate        | + | + | + | + | + | + | + | + | + | + | 10    |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 10    |
| Testes          | + | + | + | + | + | + | + | + | + | + | 10    |

Hematopoietic System

|                        |   |   |   |   |   |   |   |   |   |   |       |
|------------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Bone Marrow            | + | + | + | + | + | + | + | + | + | + | 10    |
| Lymph Node, Mandibular | M | M | M | M | M | + | M | M | M | M | 1     |
| Hemorrhage             |   |   |   |   |   | 2 |   |   |   |   | 1 2.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 10    |

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+ ..Tissue examined microscopically

X ..Lesion present

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
0 PPM

|                               | DAY ON TEST |   |   |   |   |   |   |   |   |   | *TOTALS |
|-------------------------------|-------------|---|---|---|---|---|---|---|---|---|---------|
|                               | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
| ANIMAL ID                     | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                               | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |         |
| Lymph Node, Mesenteric        | +           | + | + | + | + | + | + | + | + | + | 10      |
| Spleen                        | +           | + | + | + | + | + | + | + | + | + | 10      |
| Thymus                        | +           | + | + | + | + | + | + | + | + | + | 10      |
| <b>Integumentary System</b>   |             |   |   |   |   |   |   |   |   |   |         |
| Mammary Gland                 | +           | + | M | + | + | + | + | + | M | + | 8       |
| Skin                          | +           | + | + | + | + | + | + | + | + | + | 10      |
| <b>Musculoskeletal System</b> |             |   |   |   |   |   |   |   |   |   |         |
| Bone                          | +           | + | + | + | + | + | + | + | + | + | 10      |
| <b>Nervous System</b>         |             |   |   |   |   |   |   |   |   |   |         |
| Brain                         | +           | + | + | + | + | + | + | + | + | + | 10      |
| <b>Respiratory System</b>     |             |   |   |   |   |   |   |   |   |   |         |
| Lung                          | +           | + | + | + | + | + | + | + | + | + | 10      |
| Hemorrhage                    |             |   |   |   |   |   | 2 |   |   |   | 1 2.0   |
| Nose                          | +           | + | + | + | + | + | + | + | + | + | 10      |
| Trachea                       | +           | + | + | + | + | + | + | + | + | + | 10      |
| <b>Special Senses System</b>  |             |   |   |   |   |   |   |   |   |   |         |
| Eye                           | +           | + | + | + | + | + | + | + | + | + | 10      |
| Harderian Gland               | +           | + | + | + | + | + | + | + | + | + | 10      |
| <b>Urinary System</b>         |             |   |   |   |   |   |   |   |   |   |         |

\* ..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

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1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
0 PPM

|                 | DAY ON TEST |   |   |   |   |   |   |   |   |   |         |
|-----------------|-------------|---|---|---|---|---|---|---|---|---|---------|
|                 | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                 | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                 | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|                 | 4           | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID       | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | *TOTALS |
|                 | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                 | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                 | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |         |
|                 | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |         |
| Kidney          | +           | + | + | + | + | + | + | + | + | + | 10      |
| Nephropathy     | 1           |   |   |   | 1 |   |   | 1 |   |   | 3 1.0   |
| Urinary Bladder | +           | + | + | + | + | + | + | + | + | + | 10      |

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CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
3125 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Alimentary System

|                                       |   |   |   |   |   |   |   |   |   |   |    |     |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|----|-----|
| Liver                                 | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Hepatocyte, Vacuolization Cytoplasmic | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1.0 |
| Hepatodiaphragmatic Nodule            |   |   | 2 |   |   |   |   |   | 2 |   | 2  | 2.0 |

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

|         |  |  |  |   |  |  |  |  |  |  |   |     |
|---------|--|--|--|---|--|--|--|--|--|--|---|-----|
| Testes  |  |  |  | + |  |  |  |  |  |  | 1 |     |
| Atrophy |  |  |  | 3 |  |  |  |  |  |  | 1 | 3.0 |

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

\* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

**F 344/N Rat Male  
3125 PPM**

|             |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

**\*TOTALS**

NONE  
**Nervous System**

NONE  
**Respiratory System**

NONE  
**Special Senses System**

NONE  
**Urinary System**

NONE

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CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
6250 PPM

| DAY ON TEST | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9       | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4       | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 2       | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
|             | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|             | *TOTALS |   |   |   |   |   |   |   |   |   |

Alimentary System

|   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| Liver                                   | + | + | + | + | + | + | + | + | + | + | 10     |
| Hematopoietic Cell Proliferation, Focal | 1 | 1 |   |   |   |   |   | 1 |   |   | 3 1.0  |
| Hepatocyte, Hypertrophy                 |   |   |   | 1 | 1 |   |   |   |   |   | 2 1.0  |
| Hepatocyte, Vacuolization Cytoplasmic   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
| Hepatodiaphragmatic Nodule              | 2 |   |   |   |   |   |   |   | 2 |   | 2 2.0  |
| Tooth                                   |   |   |   | + |   |   |   |   |   |   | 1      |
| Malformation                            |   |   |   | 2 |   |   |   |   |   |   | 1 2.0  |

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

|                                    |  |  |  |   |  |  |  |  |  |  |       |
|------------------------------------|--|--|--|---|--|--|--|--|--|--|-------|
| Lymph Node                         |  |  |  | + |  |  |  |  |  |  | 1     |
| Mediastinal, Hyperplasia, Lymphoid |  |  |  | 2 |  |  |  |  |  |  | 1 2.0 |

\* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
6250 PPM

|             |         |   |   |   |   |   |   |   |   |   |
|-------------|---------|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9       | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4       | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 2       | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
|             | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|             | *TOTALS |   |   |   |   |   |   |   |   |   |

|                               |  |  |   |  |  |  |  |  |  |  |       |
|-------------------------------|--|--|---|--|--|--|--|--|--|--|-------|
| Spleen                        |  |  |   |  |  |  |  |  |  |  | 1     |
| Accessory Spleen              |  |  | + |  |  |  |  |  |  |  | 1 1.0 |
| <b>Integumentary System</b>   |  |  |   |  |  |  |  |  |  |  |       |
| NONE                          |  |  |   |  |  |  |  |  |  |  |       |
| <b>Musculoskeletal System</b> |  |  |   |  |  |  |  |  |  |  |       |
| NONE                          |  |  |   |  |  |  |  |  |  |  |       |
| <b>Nervous System</b>         |  |  |   |  |  |  |  |  |  |  |       |
| NONE                          |  |  |   |  |  |  |  |  |  |  |       |
| <b>Respiratory System</b>     |  |  |   |  |  |  |  |  |  |  |       |
| NONE                          |  |  |   |  |  |  |  |  |  |  |       |
| <b>Special Senses System</b>  |  |  |   |  |  |  |  |  |  |  |       |
| NONE                          |  |  |   |  |  |  |  |  |  |  |       |
| <b>Urinary System</b>         |  |  |   |  |  |  |  |  |  |  |       |
| Kidney                        |  |  |   |  |  |  |  |  |  |  | 1     |

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X ..Lesion present

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Species/Strain: Rat/F 344/N

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Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
12500 PPM

|             |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\*TOTALS

Alimentary System

|   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| Liver                                   | + | + | + | + | + | + | + | + | + | + | 10     |
| Hematopoietic Cell Proliferation, Focal |   |   | 1 | 1 |   |   | 1 |   |   |   | 3 1.0  |
| Hepatocyte, Hypertrophy                 | 1 | 1 | 1 | 1 |   | 1 | 1 | 1 | 1 | 1 | 9 1.0  |
| Hepatocyte, Vacuolization Cytoplasmic   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
| Inflammation, Chronic, Focal            |   |   | 1 |   |   |   |   |   |   |   | 1 1.0  |

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary 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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
12500 PPM

|             |         |   |   |   |   |   |   |   |   |   |
|-------------|---------|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9       | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4       | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 3       | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|             | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|             | *TOTALS |   |   |   |   |   |   |   |   |   |

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

NONE

Special Senses System

Eye

|         |   |       |
|---------|---|-------|
| +       | 1 |       |
| Atrophy | 2 | 1 2.0 |

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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
25000 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Alimentary System

|                                       |   |   |   |   |   |   |   |   |   |   |    |     |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|----|-----|
| Liver                                 | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Hepatocyte, Hypertrophy               | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 10 | 1.3 |
| Hepatocyte, Vacuolization Cytoplasmic | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1.0 |
| Hepatodiaphragmatic Nodule            | 2 |   |   |   |   |   |   |   |   |   | 1  | 2.0 |
| Inflammation, Chronic, Focal          |   |   | 1 |   |   |   |   |   |   |   | 1  | 1.0 |

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary 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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
25000 PPM

|             |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\*TOTALS

Musculoskeletal System

NONE

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

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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
50000 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Alimentary System

|   |   |   |   |   |   |   |   |   |   |   |    |     |
|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Esophagus                               | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Intestine Large, Cecum                  | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Intestine Large, Colon                  | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Intestine Large, Rectum                 | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Intestine Small, Duodenum               | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Intestine Small, Ileum                  | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Intestine Small, Jejunum                | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Liver                                   | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Hematopoietic Cell Proliferation, Focal |   |   | 1 |   |   |   | 1 |   |   | 1 | 3  | 1.0 |
| Hepatocyte, Hypertrophy                 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 10 | 1.8 |
| Hepatocyte, Vacuolization Cytoplasmic   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1.0 |
| Pancreas                                | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Acinus, Atrophy, Focal                  |   |   |   |   |   | 1 |   | 2 |   |   | 2  | 1.5 |
| Salivary Glands                         | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Parotid Gl, Basophilic Focus, Multiple  |   |   | 1 | 1 | 1 |   | 1 | 1 | 1 | 1 | 7  | 1.0 |
| Stomach, Forestomach                    | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Stomach, Glandular                      | + | + | + | + | + | + | + | + | + | + | 10 |     |

Cardiovascular System

|                       |   |   |   |   |   |   |   |   |   |   |    |     |
|-----------------------|---|---|---|---|---|---|---|---|---|---|----|-----|
| Heart                 | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Cardiomyopathy, Focal | 1 | 1 |   |   |   |   | 1 |   |   |   | 3  | 1.0 |

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
50000 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Endocrine System

|                      |   |   |   |   |   |   |   |   |   |   |       |
|----------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Adrenal Cortex       | + | + | + | + | + | + | + | + | + | + | 10    |
| Adrenal Medulla      | + | + | + | + | + | + | + | + | + | + | 10    |
| Parathyroid Gland    | + | + | + | + | + | + | + | + | + | + | 10    |
| Pituitary Gland      | + | + | + | + | + | + | + | + | + | + | 10    |
| Thyroid Gland        | + | + | + | + | + | + | + | + | + | + | 10    |
| Ultimobranchial Cyst |   |   | 1 | 1 |   |   |   |   |   | 1 | 3 1.0 |

General Body System

NONE

Genital System

|                 |   |   |   |   |   |   |   |   |   |   |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|
| Epididymis      | + | + | + | + | + | + | + | + | + | + | 10 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Prostate        | + | + | + | + | + | + | + | + | + | + | 10 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 10 |
| Testes          | + | + | + | + | + | + | + | + | + | + | 10 |

Hematopoietic System

|                        |   |   |   |   |   |   |   |   |   |   |    |
|------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow            | + | + | + | + | + | + | + | + | + | + | 10 |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | 0  |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen                 | + | + | + | + | + | + | + | + | + | + | 10 |
| Thymus                 | + | + | + | + | + | + | + | + | + | + | 10 |

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
50000 PPM

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---|---|---|---|---|---|---|---|---|---|
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\*TOTALS

|  |   |   |   |   |   |   |   |   |   |   |       |
|--|---|---|---|---|---|---|---|---|---|---|-------|
| Thymus   | + | + | + | + | + | + | + | + | + | + | 10    |
| <b>Integumentary System</b>                        |   |   |   |   |   |   |   |   |   |   |       |
| Mammary Gland                                      | + | + | + | + | + | + | + | + | + | + | 10    |
| Skin   | + | + | + | + | + | + | + | + | + | + | 10    |
| <b>Musculoskeletal System</b>                      |   |   |   |   |   |   |   |   |   |   |       |
| Bone   | + | + | + | + | + | + | + | + | + | + | 10    |
| <b>Nervous System</b>                              |   |   |   |   |   |   |   |   |   |   |       |
| Brain  | + | + | + | + | + | + | + | + | + | + | 10    |
| <b>Respiratory System</b>                          |   |   |   |   |   |   |   |   |   |   |       |
| Lung   | + | + | + | + | + | + | + | + | + | + | 10    |
| Alveolus, Infiltration Cellular, Histiocyte, Focal |   |   | 1 |   |   |   |   |   |   |   | 1 1.0 |
| Inflammation, Chronic, Focal                       |   |   |   | 1 |   |   |   |   |   |   | 1 1.0 |
| Nose   | + | + | + | + | + | + | + | + | + | + | 10    |
| Trachea  | + | + | + | + | + | + | + | + | + | + | 10    |
| <b>Special Senses System</b>                       |   |   |   |   |   |   |   |   |   |   |       |
| Eye  | + | + | + | + | + | + | + | + | + | + | 10    |
| Harderian Gland                                    | + | + | + | + | + | + | + | + | + | + | 10    |
| Infiltration Cellular, Lymphocyte                  |   |   |   |   |   |   |   | 2 |   |   | 1 2.0 |
| <b>Urinary System</b>                              |   |   |   |   |   |   |   |   |   |   |       |

\* ..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



Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Male  
50000 PPM

| DAY ON TEST     | 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |       |
|-----------------|----------------|---|---|---|---|---|---|---|---|---|-------|
|                 | 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |       |
|                 | 9              | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |       |
|                 | 4              | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |       |
| ANIMAL ID       | 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |       |
|                 | 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |       |
|                 | 0              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |       |
|                 | 5              | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |       |
|                 | 1              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |       |
|                 | <b>*TOTALS</b> |   |   |   |   |   |   |   |   |   |       |
| Kidney          | +              | + | + | + | + | + | + | + | + | + | 10    |
| Nephropathy     | 1              |   |   |   |   |   |   |   |   |   | 1 1.0 |
| Urinary Bladder | +              | + | + | + | + | + | + | + | + | + | 10    |

\*\*\*END OF MALE DATA\*\*\*

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
0 PPM

| DAY ON TEST | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9       | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4       | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 6       | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
|             | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|             | *TOTALS |   |   |   |   |   |   |   |   |   |

Alimentary System

|  |   |   |   |   |   |   |   |   |   |   |       |
|--|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus                                | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Large, Cecum                   | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Large, Colon                   | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Large, Rectum                  | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Small, Duodenum                | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Small, Ileum                   | + | + | + | + | + | + | + | + | + | + | 10    |
| Intestine Small, Jejunum                 | + | + | + | + | + | + | + | + | + | + | 10    |
| Liver                                    | + | + | + | + | + | + | + | + | + | + | 10    |
| Hepatodiaphragmatic Nodule               | 2 |   |   |   |   |   |   |   |   |   | 1 2.0 |
| Infiltration Cellular, Lymphocyte, Focal | 1 |   |   |   |   |   |   |   |   |   | 1 1.0 |
| Inflammation, Chronic, Focal             |   |   |   |   |   |   |   |   | 1 |   | 1 1.0 |
| Pancreas                                 | + | + | + | + | + | + | + | + | + | + | 10    |
| Salivary Glands                          | + | + | + | + | + | + | + | + | + | + | 10    |
| Parotid G, Basophilic Focus, Multiple    |   |   |   |   |   |   |   | 1 |   |   | 1 1.0 |
| Stomach, Forestomach                     | + | + | + | + | + | + | + | + | + | + | 10    |
| Stomach, Glandular                       | + | + | + | + | + | + | + | + | + | + | 10    |

Cardiovascular System

|       |   |   |   |   |   |   |   |   |   |   |    |
|-------|---|---|---|---|---|---|---|---|---|---|----|
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|----|

Endocrine System

|                |   |   |   |   |   |   |   |   |   |   |    |
|----------------|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
|----------------|---|---|---|---|---|---|---|---|---|---|----|

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:42

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
0 PPM

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---|---|---|---|---|---|---|---|---|---|
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\*TOTALS

|   |   |   |   |   |   |   |   |   |   |   |    |     |
|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Accessory Adrenal Cortical Nodule             |   |   |   |   |   | 2 |   |   |   |   | 1  | 2.0 |
| Adrenal Medulla                               | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Parathyroid Gland                             | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Pituitary Gland                               | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Thyroid Gland                                 | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Ultimobranchial Cyst                          |   |   |   | 1 |   |   |   |   | 1 |   | 2  | 1.0 |
| <b>General Body System</b>                    |   |   |   |   |   |   |   |   |   |   |    |     |
| NONE  |   |   |   |   |   |   |   |   |   |   |    |     |
| <b>Genital System</b>                         |   |   |   |   |   |   |   |   |   |   |    |     |
| Clitoral Gland                                | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Ovary   | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Uterus  | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Hydrometra                                    |   |   |   |   | 2 | 2 |   |   |   | 2 | 3  | 2.0 |
| <b>Hematopoietic System</b>                   |   |   |   |   |   |   |   |   |   |   |    |     |
| Bone Marrow                                   | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Lymph Node                                    |   |   |   |   |   |   |   | + |   | + | 2  |     |
| Pancreatic, Hemorrhage                        |   |   |   |   |   |   | 2 |   |   | 2 | 2  | 2.0 |
| Pancreatic, Infiltration Cellular, Histiocyte |   |   |   |   |   |   | 2 |   |   |   | 1  | 2.0 |
| Lymph Node, Mandibular                        | M | M | M | M | M | M | M | + | + | M | 2  |     |
| Lymph Node, Mesenteric                        | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Spleen  | + | + | + | + | + | + | + | + | + | + | 10 |     |

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
0 PPM

| DAY ON TEST                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | *TOTALS |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|---------|
|                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
| ANIMAL ID                     | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|                               | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
|                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|                               | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |         |
|                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |         |
| Thymus                        | + | + | + | + | + | + | + | + | + | + | 10      |
| <b>Integumentary System</b>   |   |   |   |   |   |   |   |   |   |   |         |
| Mammary Gland                 | + | + | + | + | + | + | + | + | + | + | 10      |
| Skin                          | + | + | + | + | + | + | + | + | + | + | 10      |
| <b>Musculoskeletal System</b> |   |   |   |   |   |   |   |   |   |   |         |
| Bone                          | + | + | + | + | + | + | + | + | + | + | 10      |
| <b>Nervous System</b>         |   |   |   |   |   |   |   |   |   |   |         |
| Brain                         | + | + | + | + | + | + | + | + | + | + | 10      |
| <b>Respiratory System</b>     |   |   |   |   |   |   |   |   |   |   |         |
| Lung                          | + | + | + | + | + | + | + | + | + | + | 10      |
| Nose                          | + | + | + | + | + | + | + | + | + | + | 10      |
| Trachea                       | + | + | + | + | + | + | + | + | + | + | 10      |
| <b>Special Senses System</b>  |   |   |   |   |   |   |   |   |   |   |         |
| Eye                           | + | + | + | + | + | + | + | + | + | + | 10      |
| Harderian Gland               | + | + | + | + | + | + | + | + | + | + | 10      |
| <b>Urinary System</b>         |   |   |   |   |   |   |   |   |   |   |         |
| Kidney                        | + | + | + | + | + | + | + | + | + | + | 10      |
| Nephropathy                   |   |   |   |   |   |   |   |   | 1 |   | 1 1.0   |
| Urinary Bladder               | + | + | + | + | + | + | + | + | + | + | 10      |

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
3125 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Alimentary System

Liver + + + + + + + + + 10

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

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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

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

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

**F 344/N Rat Female  
3125 PPM**

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *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

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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
6250 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Alimentary System

|                              |   |   |   |   |   |   |   |   |   |     |       |
|------------------------------|---|---|---|---|---|---|---|---|---|-----|-------|
| Liver                        | + | + | + | + | + | + | + | + | + | +   | 10    |
| Hepatocyte, Hypertrophy      |   |   | 1 |   |   |   |   |   |   | 1 1 | 3 1.0 |
| Inflammation, Chronic, Focal | 1 |   |   |   |   |   |   | 1 |   |     | 2 1.0 |

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

|        |  |  |  |  |  |  |  |   |   |  |       |
|--------|--|--|--|--|--|--|--|---|---|--|-------|
| Vagina |  |  |  |  |  |  |  |   | + |  | 1     |
| Cyst   |  |  |  |  |  |  |  | 3 |   |  | 1 3.0 |

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
6250 PPM

|             |         |   |   |   |   |   |   |   |   |   |
|-------------|---------|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9       | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4       | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 8       | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
|             | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|             | *TOTALS |   |   |   |   |   |   |   |   |   |

NONE  
Nervous System

NONE  
Respiratory System

|                     |  |   |  |   |     |
|---------------------|--|---|--|---|-----|
| Lung                |  | + |  | 1 |     |
| Hemorrhage          |  | 2 |  | 1 | 2.0 |
| Perivascular, Edema |  | 2 |  | 1 | 2.0 |

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



Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
12500 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Alimentary System

|                              |   |   |   |   |   |   |   |   |   |   |    |     |
|------------------------------|---|---|---|---|---|---|---|---|---|---|----|-----|
| Liver                        | + | + | + | + | + | + | + | + | + | + | 10 |     |
| Hepatocyte, Hypertrophy      | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1.0 |
| Hepatodiaphragmatic Nodule   |   |   | 2 |   |   |   |   |   | 2 |   | 2  | 2.0 |
| Inflammation, Chronic, Focal | 1 |   |   |   |   |   |   |   |   |   | 1  | 1.0 |

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

|       |  |  |  |  |  |  |  |  |  |  |   |   |     |
|-------|--|--|--|--|--|--|--|--|--|--|---|---|-----|
| Ovary |  |  |  |  |  |  |  |  |  |  | + | 1 |     |
| Cyst  |  |  |  |  |  |  |  |  |  |  | 2 | 1 | 2.0 |

Hematopoietic System

NONE

Integumentary 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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

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

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

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

|             |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

**\*TOTALS**

**Musculoskeletal System**

NONE

**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

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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
25000 PPM

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |

Alimentary System

|                         |   |   |   |   |   |   |   |   |   |   |        |
|-------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Liver                   | + | + | + | + | + | + | + | + | + | + | 10     |
| Hepatocyte, Hypertrophy | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 10 1.9 |

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

|       |   |       |
|-------|---|-------|
| Ovary | + | 1     |
| Cyst  | 2 | 1 2.0 |

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal 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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

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

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

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

|             |   |   |   |   |   |   |   |   |   |   |         |
|-------------|---|---|---|---|---|---|---|---|---|---|---------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |         |
|             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |         |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |         |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |         |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *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

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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
50000 PPM

| DAY ON TEST | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 9       | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 4       | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID   | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 1       | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|             | 1       | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
|             | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|             | *TOTALS |   |   |   |   |   |   |   |   |   |

Alimentary System

|  |   |   |   |   |   |   |   |   |   |   |        |
|--|---|---|---|---|---|---|---|---|---|---|--------|
| Esophagus                                | + | + | + | + | + | + | + | + | + | + | 10     |
| Intestine Large, Cecum                   | + | + | + | + | + | + | + | + | + | + | 10     |
| Intestine Large, Colon                   | + | + | + | + | + | + | + | + | + | + | 10     |
| Intestine Large, Rectum                  | + | + | + | + | + | + | + | + | + | + | 10     |
| Intestine Small, Duodenum                | + | + | + | + | + | + | + | + | + | + | 10     |
| Intestine Small, Ileum                   | + | + | + | + | + | + | + | + | + | + | 10     |
| Intestine Small, Jejunum                 | + | + | + | + | + | + | + | + | + | + | 10     |
| Liver                                    | + | + | + | + | + | + | + | + | + | + | 10     |
| Hepatocyte, Hypertrophy                  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 2.0 |
| Inflammation, Chronic, Focal             | 1 |   |   |   |   |   |   |   |   |   | 1 1.0  |
| Pancreas                                 | + | + | + | + | + | + | + | + | + | + | 10     |
| Salivary Glands                          | + | + | + | + | + | + | + | + | + | + | 10     |
| Parotid Gl, Basophilic Focus, Multiple   | 1 |   |   |   | 1 | 1 | 1 | 1 |   | 1 | 6 1.0  |
| Stomach, Forestomach                     | + | + | + | + | + | + | + | + | + | + | 10     |
| Stomach, Glandular                       | + | + | + | + | + | + | + | + | + | + | 10     |
| Infiltration Cellular, Lymphocyte, Focal |   |   |   |   |   |   |   | 2 |   |   | 1 2.0  |

Cardiovascular System

|                       |   |   |   |   |   |   |   |   |   |   |       |
|-----------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Heart                 | + | + | + | + | + | + | + | + | + | + | 10    |
| Cardiomyopathy, Focal | 1 |   |   |   |   |   |   |   |   |   | 1 1.0 |

Endocrine System

\* ..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

Experiment Number: 99007-03

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
50000 PPM

|                             | DAY ON TEST |   |   |   |   |   |   |   |   |   |                |     |  |
|-----------------------------|-------------|---|---|---|---|---|---|---|---|---|----------------|-----|--|
|                             | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                |     |  |
|                             | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                |     |  |
|                             | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |                |     |  |
|                             | 4           | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |                |     |  |
| ANIMAL ID                   | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                |     |  |
|                             | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                |     |  |
|                             | 1           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |                |     |  |
|                             | 1           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |                |     |  |
|                             | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | <b>*TOTALS</b> |     |  |
| Adrenal Cortex              | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Hyperplasia, Focal          |             |   |   |   |   | 2 |   |   |   |   | 1              | 2.0 |  |
| Adrenal Medulla             | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Parathyroid Gland           | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Pituitary Gland             | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Rathkes Cleft, Cyst         |             |   |   | 1 |   |   |   |   |   |   | 1              | 1.0 |  |
| Thyroid Gland               | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Ultimobranchial Cyst        |             |   |   |   |   | 1 |   | 1 |   |   | 2              | 1.0 |  |
| <b>General Body System</b>  |             |   |   |   |   |   |   |   |   |   |                |     |  |
| NONE                        |             |   |   |   |   |   |   |   |   |   |                |     |  |
| <b>Genital System</b>       |             |   |   |   |   |   |   |   |   |   |                |     |  |
| Clitoral Gland              | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Ovary                       | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Cyst                        |             |   |   |   |   |   |   |   |   | 1 | 1              | 1.0 |  |
| Uterus                      | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Cervix, Cyst                |             |   |   |   |   |   |   | 2 |   |   | 1              | 2.0 |  |
| <b>Hematopoietic System</b> |             |   |   |   |   |   |   |   |   |   |                |     |  |
| Bone Marrow                 | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Lymph Node, Mandibular      | M           | M | M | M | M | M | M | M | M | M | 0              |     |  |
| Lymph Node, Mesenteric      | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |
| Spleen                      | +           | + | + | + | + | + | + | + | + | + | 10             |     |  |

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Experiment Number: 99007-03

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Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Goldenseal root powder

CAS Number: GOLDENSEALRT

Date Report Requested: 10/16/2014

Time Report Requested: 02:35:43

First Dose M/F: NA / NA

Lab: SRI

F 344/N Rat Female  
50000 PPM

| DAY ON TEST  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | *TOTALS |
|--|---|---|---|---|---|---|---|---|---|---|-----------|---|---|---|---|---|---|---|---|---|---|---------|
|  | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |         |
|  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |         |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |         |
| Thymus   | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| <b>Integumentary System</b>                        |   |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |   |         |
| Mammary Gland                                      | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| Skin   | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| <b>Musculoskeletal System</b>                      |   |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |   |         |
| Bone   | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| <b>Nervous System</b>                              |   |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |   |         |
| Brain  | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| <b>Respiratory System</b>                          |   |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |   |         |
| Lung   | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| Alveolus, Infiltration Cellular, Histiocyte, Focal |   |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   | 1 |   |   | 1 1.0   |
| Nose   | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| Trachea  | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| <b>Special Senses System</b>                       |   |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |   |         |
| Eye  | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| Harderian Gland                                    | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| <b>Urinary System</b>                              |   |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |   |         |
| Kidney   | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |
| Urinary Bladder                                    | + | + | + | + | + | + | + | + | + | + |           |   |   |   |   |   |   |   |   |   |   | 10      |

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**\*\* END OF REPORT \*\***

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