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# Supplementary file 1

## Table 1. Detailed administration protocol

| Group | Number of animals per group | CCl4 | Forage | Administration and treatment of each group | Note |
|---|---|---|---|---|---|
| **1** | 8 | No | Normal | Vehicle, s.c. B.i.w., Day 0~Day 27 | Blank control model |
| **2** | 8 | Yes | High-fat | Vehicle, s.c. CCl4, i.p. B.i.w., Day 0~Day 27 | As a control group for models within groups 3-7 |
| **3** | 8 | Yes | High-fat | OCA, 30 mg/kg, p.o., q.d., Day 0~Day 27 | The CCl4 model induction and administration were conducted simultaneously, CCl4, i.p. B.i.w; the batch HSP763-01 GF6 was stored at -20°C for more than 30 M, while the batch HSP763-01 was stored at -20°C for less than 1 M. |
| **4** | 8 | Yes | High-fat | HSP763-01, 0.3 mg/kg, s.c. B.i.w ., Day 0~Day 27 | |
| **5** | 8 | Yes | High-fat | HSP763-01,1.0mg/kg, s.c. B.i.w ., Day 0~Day 27 | |
| **6** | 8 | Yes | High-fat | HSP763-01, 3.0 mg/kg, s.c. B.i.w ., Day 0~Day 27 | |
| **7** | 8 | Yes | High-fat | HSP763-01 GF6, 1.0mg/kg, s.c. B.i.w ., Day 0~Day 27 | |
| **8** | 8 | Yes | High- | HSP763-01, 3.0mg/kg, s.c. | The pre-treatment period involved the use of CCl4 for 2 weeks, followed by a 4 weeks drug |

| | | | | | |
|---|---|---|---|---|---|
| | | | fat | B.i.w ., Day 14~Day 41<br>CCl4, i.p. once a week, Day 0~Day 41 | administration |
| **9** | 8 | Yes | High-fat | CCl4, i.p. once a week, Day 0~Day 41 | As a model comparison for Group8, CCl4 continued to induce to Day 41 based on Group2. |

**Table 2. SEC-HPLC**

| **Name** | **Instruction** | |
|---|---|---|
| Mobile phase | 100mM PB,200mM Arg, pH 6.8 | |
| Chromatography column | Waters BEH200 | |
| High-Performance Liquid Chromatograph (HPLC) | Agilent 1260 InfinityII | |
| **Procedure** | **Instruction** | **Parameter** |
| Sample preparation | Take a protein sample and place it in the liquid phase inner tube, then directly load it onto the column. | |
| Chromatographic parameters | Loading | 50ug |
| | Flow velocity | 1ml/min |
| | Collection time | 15min |
| | Detection wavelength | 280nm |
| Operating Instructions | Stabilize the baseline of the system by equilibrating it with the mobile phase. Subsequently, add 50 μg of antibody to the designated sample vial and place the vials within the instrument. Collect data for a duration of 15 minutes, followed by the analysis and processing of the data. Ensure that the data is securely saved. | |

**Table 3. NAS Assessment**

| NASH | | | |
|---|---|---|---|
| Pathological manifestations | Assessment | Scoring (NAS） | Assessment Criteria for Pathological Changes： |
| Hepatocyte ballooning | None | 0 | 1. Hepatocyte ballooning: Pathological changes similar to air bubbles are observed in hepatocytes. Due to the liquid vacuole-like changes, the size of hepatocytes increases, and the nucleus of the hepatocyte is concentrated or displaced.<br>2. Inflammatory cell infiltration: Large numbers of inflammatory cells, mainly neutrophils and macrophages, are found in the portal area, subcapsular vein area, or around the liver lobules.<br>3. Changes in liver cell fat: regular round vacuoles are observed in liver cells of different sizes, with the nucleus located at the edge. |
| | A few balloon-shaped cells | 1 | |
| | Large numbers of balloon-shaped cells | 2 | |
| Overall assessment of small follicular inflammation in all inflammatory lesions. | None | 0 | |
| | < 2 foci/200-fold field of view | 1 | |
| | 2-4 foci/ 200-fold field of view | 2 | |
| | >4 foci / 200-fold field of view | 3 | |
| Lipid degeneration | <5% | 0 | |
| | 5%-33% | 1 | |
| | >33%-66% | 2 | |
| | >66% | 3 | |

**Table 4. Staging criteria for liver fibrosis**

| **Hepatic Fibrosis** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Histopathological characteristics | Staging criteria for liver fibrosis | | | | | | | |
| Fibrosis Score | Staging | 0 | 1 | | | 2 | 3 | 4 |
| | | | 1A | 1B | 1C | | | |
| | Scoring | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| | Categorical definition | None | Mild, Zone 3, peritoneal fibrosis. | Moderate, Zone 3, Peripheral Fibrosis | Portal area / Periportal fibrosis | Sinusoid/portal area / Perivascular fibrosis | Bridging fibrosis | Hepatic cirrhosis |