



Products for Mouse Colitis



Inflammatory bowel disease is a multifactorial disease with unknown etiology and is comprised of two major subtypes: ulcerative colitis (UC) and Crohn's Disease (CD). UC mostly affects the large intestine or colon, while CD may affect any part of the gastrointestinal tract (1). To study UC, dextran sulfate sodium (DSS) is frequently used to induce colitis in experimental animals as acute, chronic, or relapsing colitis can be easily induced by changing the DSS concentration or administration period (2).

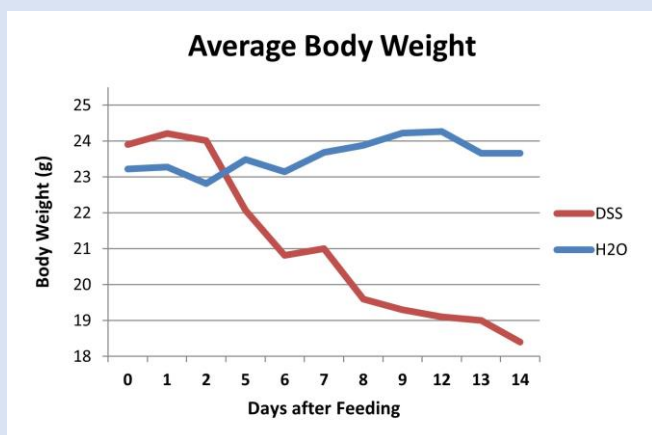
Chondrex, Inc. provides DSS to induce colitis in experimental animals, as well as tools to evaluate features and complications of this disease, which mimics human colitis (3, 4). The following results of a DSS-induced mouse colitis model in C3H mice measured A) body weight, B) hemoglobin (Hb) levels (a marker of anemia) and C) gastrointestinal permeability with FITC-dextran. For more information about these products, please contact Chondrex, Inc. at support@chondrex.com.

Experimental Protocol

C3H Mice (female, 7 - 8 weeks old)

3.5% DSS in water or water only *ad libitum*, Day 1 - Day 5

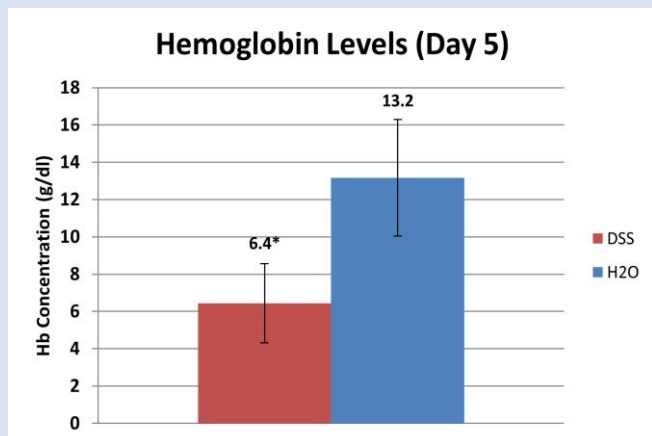
A) Body Weight



Weight Loss in C3H Mice Treated with DSS

Mice were given water (control) or 3.5% DSS *ad libitum* for 5 days. Mice were weighed every weekday until day 14.

B) Hemoglobin



DSS-Induced Colitis Reduces Hb Levels in C3H Mice

Mice were given water (control) or 3.5% DSS *ad libitum* for 5 days. Hb levels were assayed on day 5.

*P<0.005, Student's t-test, indicates that the DSS group is statistically different from the water (control) group.



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C) Gastrointestinal Permeability

In Vivo Assay Protocol

Fast mice 4 hours before oral feeding and for the duration of the experiment



Feed 40 kDa FITC-Dextran by oral gavage
(6.25 mg in 250 μ l/25 g mouse body weight)



3 hours later, collect plasma



Dilute plasma 1:2 (or more) with PBS

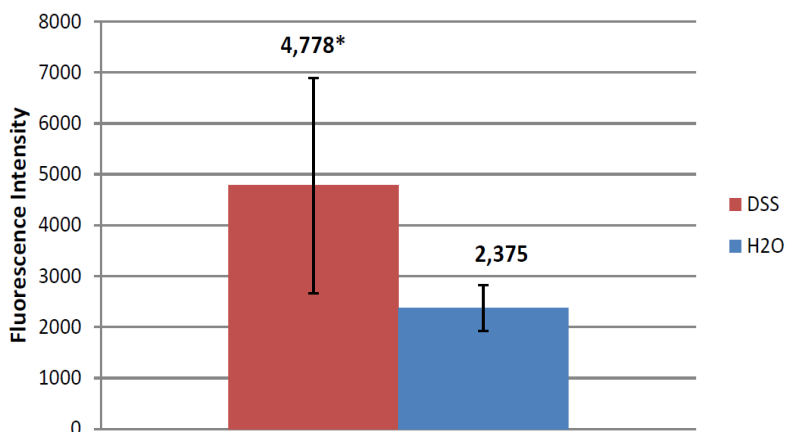


Transfer 50-100 μ l of supernatant to a 96-well plate



Read Fluorescence Intensity at Ex: 490 nm
and Em: 530 nm

FITC-Dextran Permeability (Day 5)



DSS-induced colitis increases intestinal permeability in C3H Mice

Mice were given water (control) or 3.5% DSS *ad libitum* for 5 days. The FITC-dextran permeability assay was performed on day 5. * $P < 0.05$, Student's t-test indicates that the DSS group is statistically different from the water (control) group.

| Products* | Catalog # |
|---|-------------|
| Dextran Sulfate Sodium (DSS) for Colitis, 10 g | CDB001-10g |
| Dextran Sulfate Sodium (DSS) for Colitis, 20 g | 4015 |
| Dextran Sulfate Sodium (DSS) for Colitis, 50 g | CDB001-50g |
| Dextran Sulfate Sodium (DSS) for Colitis, 100 g | CDB001-100g |
| Dextran Sulfate Sodium (DSS) for Colitis, 500 g | CDB001-500g |
| Hemoglobin Assay Kit | 6024 |
| FITC-Labeled Dextran - 4 kDa | 4013 |
| FITC-Labeled Dextran - 40 kDa | 4009 |
| TRITC-Labeled Dextran - 70 kDa | 4014 |

*Chondrex, Inc. provides more sizes of FITC-dextran and other fluorescent probes beyond what is listed here. For more information, please contact support@chondrex.com or visit www.chondrex.com.

References

1. R. Boismenu, Y. Chen. Insights from mouse models of colitis. *J Leukoc Biol* **67**, 267-278 (2000).
2. M. Perse, A. Cerar, Dextran sodium sulphate colitis mouse model: traps and tricks. *J Biomed Biotechnol* 718617 (2012).
3. Y. Yan *et al.* Temporal and spatial analysis of clinical and molecular parameters in dextran sodium sulfate induced colitis. *PLoS One* **4**, e6073 (2009).
4. P. R. Carter *et al.* Iron status, anemia, and plasma erythropoietin levels in acute and chronic mouse models of colitis. *Inflamm Bowel Dis* **19**, 1260-1265 (2013).