# Products for Mouse Colitis

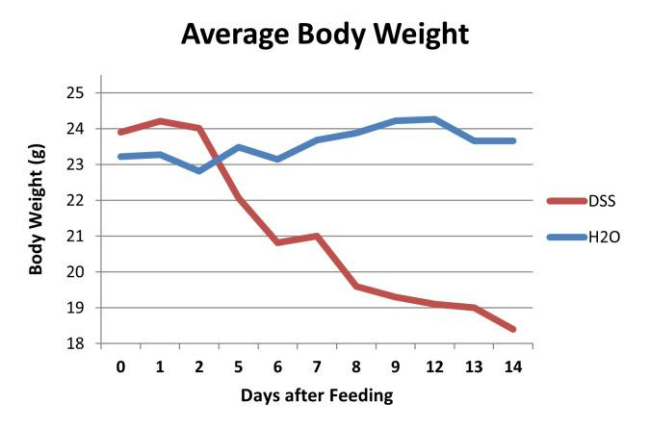
Inflammatory bowel disease is a multifactorial disease with unknown etiology and is comprised of two major subtypes: ulcerative colitis (UC) and Crohn's Disease (CD). UC mostly affects the large intestine or colon, while CD may affect any part of the gastrointestinal tract (1). To study UC, dextran sulfate 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.

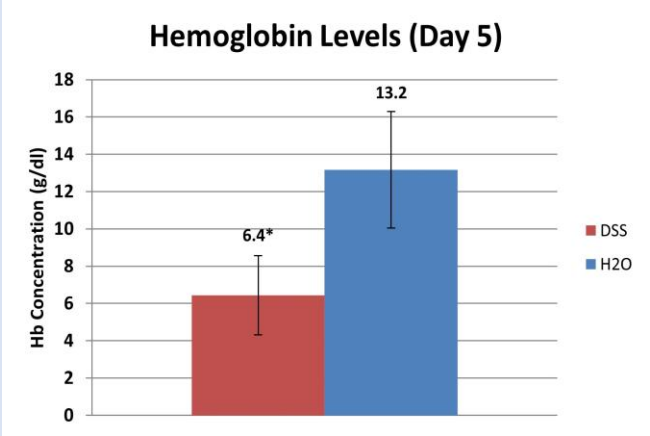
## Experimental Protocol

C3H Mice (female, 7 - 8 weeks old)
3.5% DSS in water or water only *ad libitum*, Day 1 - Day 5

**A) Body Weight** | **B) Hemoglobin**




**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.




**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.

## 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).

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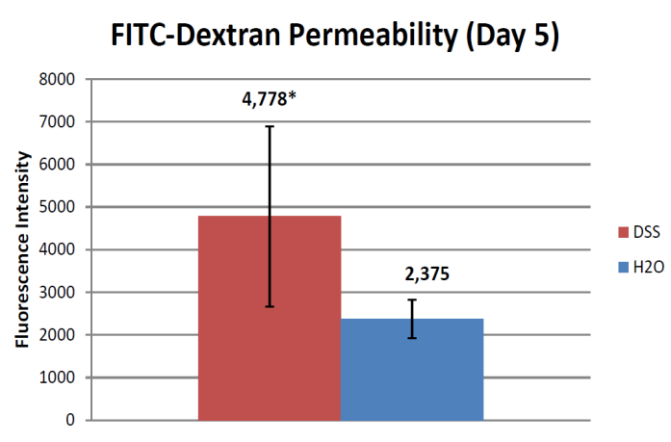
## C) Gastrointestinal Permeability

| Procedures | Paracellular Permeability (Dextran) | Transcellular Permeability (D-Xylose) |
|---|---|---|
| Fasting | 4 hours before administration | 4 hours before administration |
| Dose (Mice) | 6.25 mg / 250 µl / 25 g body weight | 20 mg / 200 µl / 25 g body weight |
| Plasma Collection | 3 hours after administration | 1 hour after administration |
| Evaluation | FI values: Ex 490 nm/Em 530 nm | Cat # 6601 |
| Note | Permeability: 4 kDa > 40 kDa > 70 kDa | - |




**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 |
| FITC–Labeled Dextran - 4 kDa | 4013 |
| FITC–Labeled Dextran - 40 kDa | 4009 |
| TRITC-Labeled Dextran - 70 kDa | 4014 |
| Hemoglobin Assay Kit | 6024 |
| D-Xylose Assay Kit | 6601 |
| Mouse S100A8 Detection Kit | 6054 |
| Mouse S100A9 Detection Kit | 6056 |

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