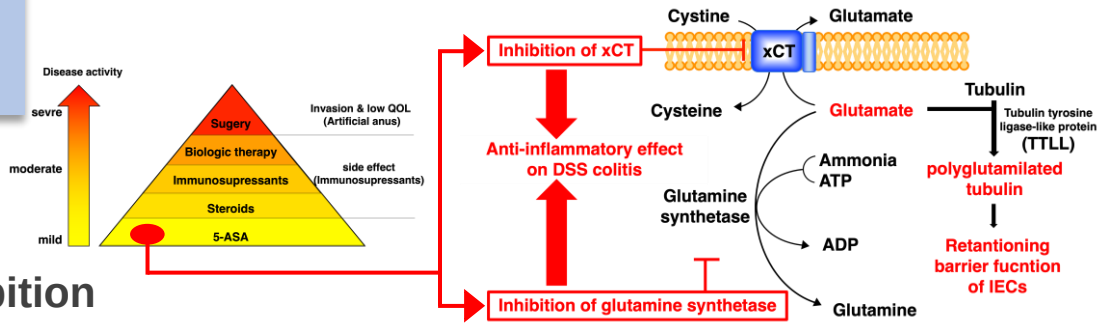
Tohoku Univ. Technology

The Treatment and Prevention of Inflammatory Bowel Disease

Anti-inflammatory effect by xCT inhibition or Glutamine synthetase inhibition



Overview

The limited number of drugs available for the treatment of inflammatory bowel disease(IBD) and their severe side effects, including immunosuppression, have led to calls for research into drugs without side effects.

The inventors focused on the role of xCT, a cystine/glutamate antiporter, in IBD. Their research suggests that xCT inhibitors or glutamine synthetase inhibitors may be therapeutic/preventive agents for inflammatory diseases.

[RESULTS]

・Mice with intestinal epithelium-specific xCT deficiency showed anti-inflammatory effects on dextran sulfate sodium(DSS) colitis(Fig.1).

・Glutamine synthetase inhibitor (MSO：Methionine sulfoximine) showed anti-inflammatory effects on DSS colitis(Fig.2).

Product Application

- Verification in Glutamine synthetase knock out mice, evaluation of the effects of xCT inhibitor erastin, and consideration of glutamylation modification of tubulin are planned.

Features・Outstandings

Fig.1 xCT defect group

Intestinal epithelium-specific xCT deficiency mice

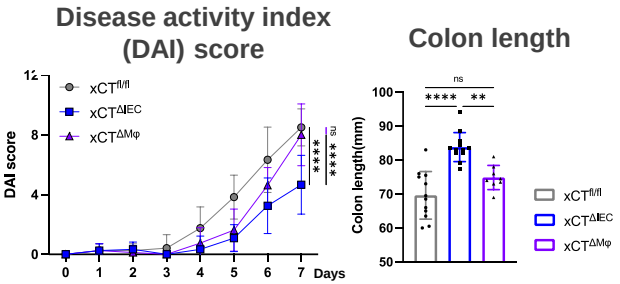
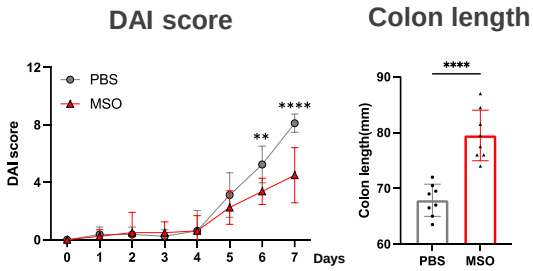


Fig.2 MSO administrated group

Glutamine synthetase inhibitor (MSO：Methionine sulfoximine)



We are seeking partners to develop therapeutic and preventive drugs for inflammatory diseases.

IP Data

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