Mucus-degrading *Bacteroides* link carbapenems to aggravated graft-versus-host disease

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Meropenem upregulated the expression of mucus-degrading enzyme in *B. thetaiotaomicron*.
Supplementation of xylose improved survival

![Graph showing survival rates with and without xylose supplementation.](image)

Summary

- **Allo-HSCT**: Conditioning therapy leads to hematopoietic stem cells.
- **Infections**: Neutropenia and mucosal damage.
- **Antibiotic treatment**: Meropenem can help.
- **Disrupted microbiome**: Loss of beneficial bacteria (Clostridia) and expanded mucus-degrading bacteria (Bacteroides thetaiotaomicron).

- Low xylose environment: Aggravated GVHD
- High xylose environment: Ameliorated GVHD