
Supplementary information

Roles of the gut microbiota in immune-related adverse events: mechanisms and therapeutic intervention

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Supplementary Table 1 | Ongoing clinical trials evaluating gut microbial modulation or gut microbial biomarkers for irAEs

Clinical trial title	ClinicalTrials.gov ID	Location	Summary
Stool transplant to control treatment-related diarrhoea	NCT04883762	New York, United States	Study type: An interventional study
			Participants: Patient has been treated with ICI for any malignant indication and has developed diarrhoea grade ≥ 2 attributed to ICI, which persists despite treatment with corticosteroids for at least 72 hours and/or at least one dose of a biologic medication, such as infliximab or vedolizumab, with symptoms that persist or recur at least 72 hours post-infusion.
			Intervention: Faecal microbiota transplantation via colonoscopy
			Study size: 4
			Study start date: 2021.05.10
			Study completion date (estimated): 2026.05
Faecal microbiota transplantation in checkpoint inhibitor-mediated diarrhoea and colitis	NCT06206707	Aarhus N, Denmark	Primary Outcomes: Incidence of faecal microbiota transplantation-related adverse events
			Study type: A randomized, placebo-controlled trial
			Participants: Patients of malignant melanoma and/or kidney cancer have been treated with any ICI within the last 8 weeks and developed grade 2 or higher diarrhoea.
			Intervention: capsule faecal microbiota transplantation
			Study size: 20
			Study start date: 2024.01.23
Role of gut microbiome and faecal transplant on medication-induced gastrointestinal complications in patients with cancer	NCT03819296	Houston, Texas, United States	Study completion date (estimated): 2025.03.31
			Primary Outcomes: Clinical remission of immune-mediated diarrhoea
			Study type: An interventional study
			Participants: Patients with any stage melanoma, non-small-cell lung cancer or genitourinary malignancies (Project 1) or patients with any cancer type (Projects 2 and 3) have been treated with any ICI agent and developed ICI related diarrhoea and/or colitis.
			Intervention: Project 1: standard of care and collection of stool and blood samples. Projects 2: drugs including prednisone, infliximab, or vedolizumab and collection of stool, blood, and tissue samples. Projects 3: faecal microbiota transplantation.
			Study size: 800
			Study start date: 2021.02.21
			Study completion date (estimated): 2025.10.31
			Outcomes: Difference in stool microbiome pattern and incidence of adverse events of faecal microbiota transplantation

Food intervention to reduce immunotherapy toxicity	NCT05832606	Jette, Belgium	Study type: A prospective interventional cohort study
			Participants: Patients with solid tumours who were treated with anti-PD-1 and/or anti-CTLA4 antibodies as part of standard of care
			Intervention: Food box containing 30 different plants
			Study size: 60
			Study start date: 2024.01.01
			Study completion date (estimated): 2026.12.31
Fasting mimicking diet for reducing immune related adverse events for cancer patients on immune checkpoint inhibitors	NCT06438588	Jacksonville, Florida, United States	Primary Outcomes: Feasibility of performing a dietary intervention trial in the centre and Incidence of immune related adverse events
			Study type: An interventional study
			Participants: Patients with advanced stage malignancies (stage 3 or 4) undergoing immunotherapy for their first time
			Intervention: fast mimicking diet
			Study size: 10
			Study start date: 2024.03.06
			Study completion date (estimated): 2027.03.15
			Primary Outcomes: Symptom measurement, incidence of adverse events, physical function, quality of life, and faecal calprotectin.

ICI, immune-checkpoint inhibitor; irAEs, immune-related adverse events