

Introduction

- **Cancer-associated cachexia** is characterized by progressive loss of lean and fat mass, adversely affecting patient outcomes.
- The **C26 tumor model** enables longitudinal evaluation of cachexia-related changes in body composition in vivo.
- **Non-invasive NMR-based body composition** analysis allows detection of temporal changes not captured by body weight alone.
- **Anamorelin**, a ghrelin receptor agonist, was evaluated for its effects on cachexia-associated endpoints in C26 tumor-bearing mice.

References

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4. Fujii H, Yamada Y, Iihara H, et al. ** Anamorelin in the management of cancer cachexia: clinical efficacy, challenges, and future directions. *Anticancer Res.* 2025;45(3):865–881.

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Body Composition Assessment

- **Description:** Longitudinal assessment of body composition was performed in male CD2F1 mice following sham (PBS) or C26 subcutaneous inoculation. Lean mass and fat mass were measured weekly using quantitative nuclear magnetic resonance (Bruker MiniSpec LF110) throughout the study period. Data are presented over time to illustrate cachexia-associated alterations in body composition in C26 tumor-bearing animals relative to controls.

Study groups:

- Group 1: Sham (PBS only) inoculation, no treatment
- Group 2: C26 subcutaneous inoculation, PBS treatment

- **Termination** on Study Day 32: collection of gonadal fat, inguinal, gastrocnemius muscle, tibialis muscle, heart, and liver.

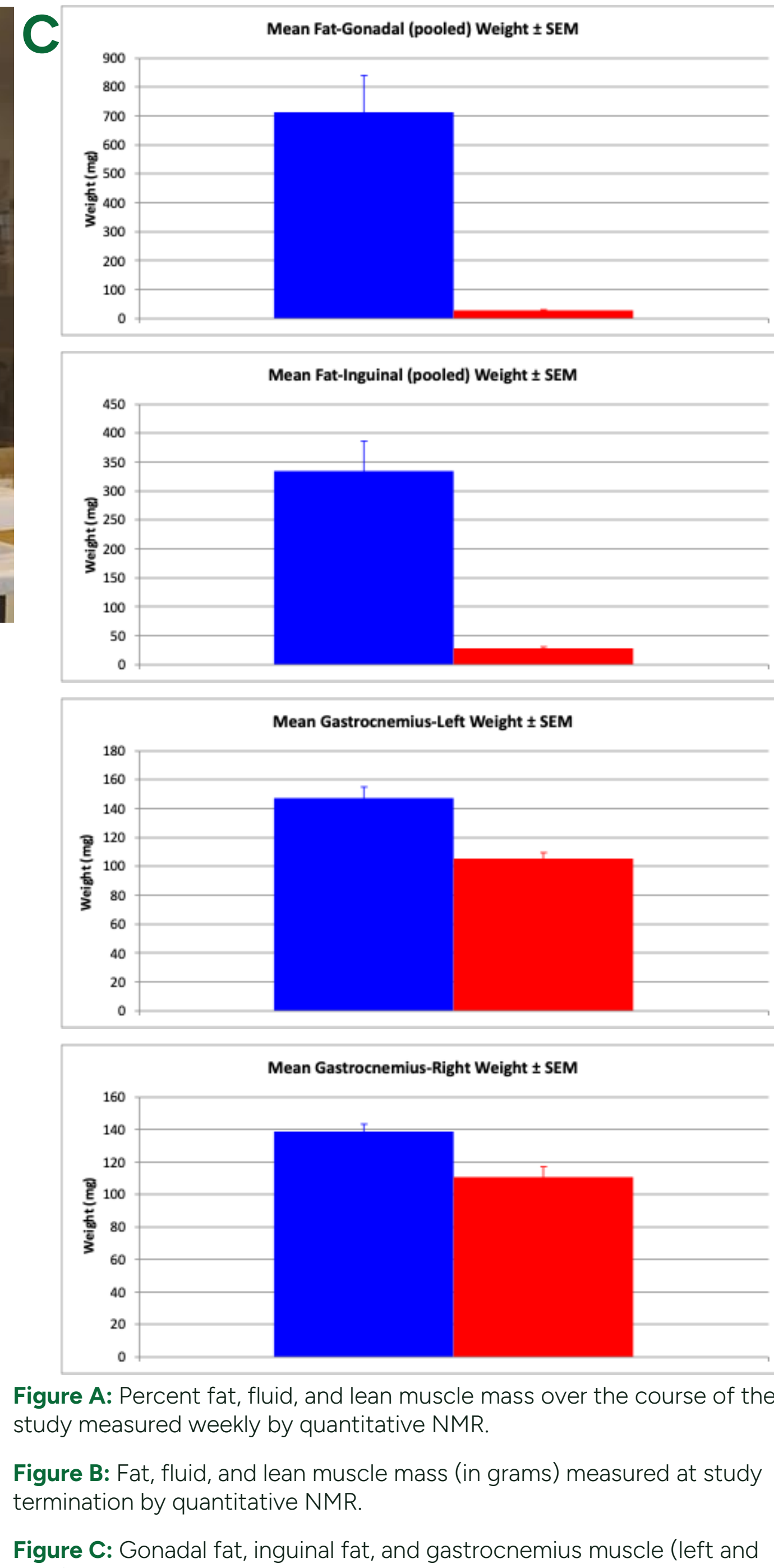
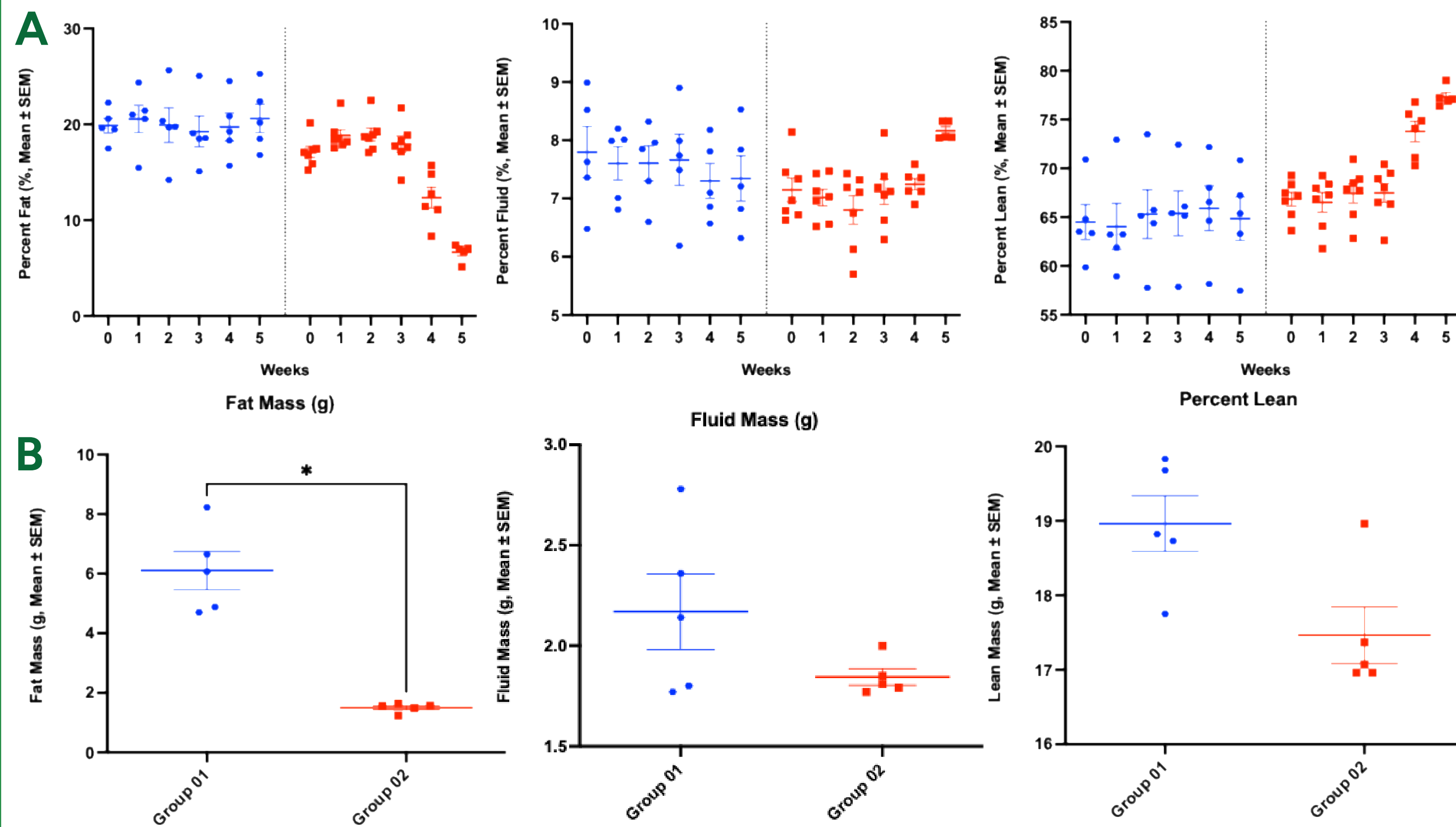
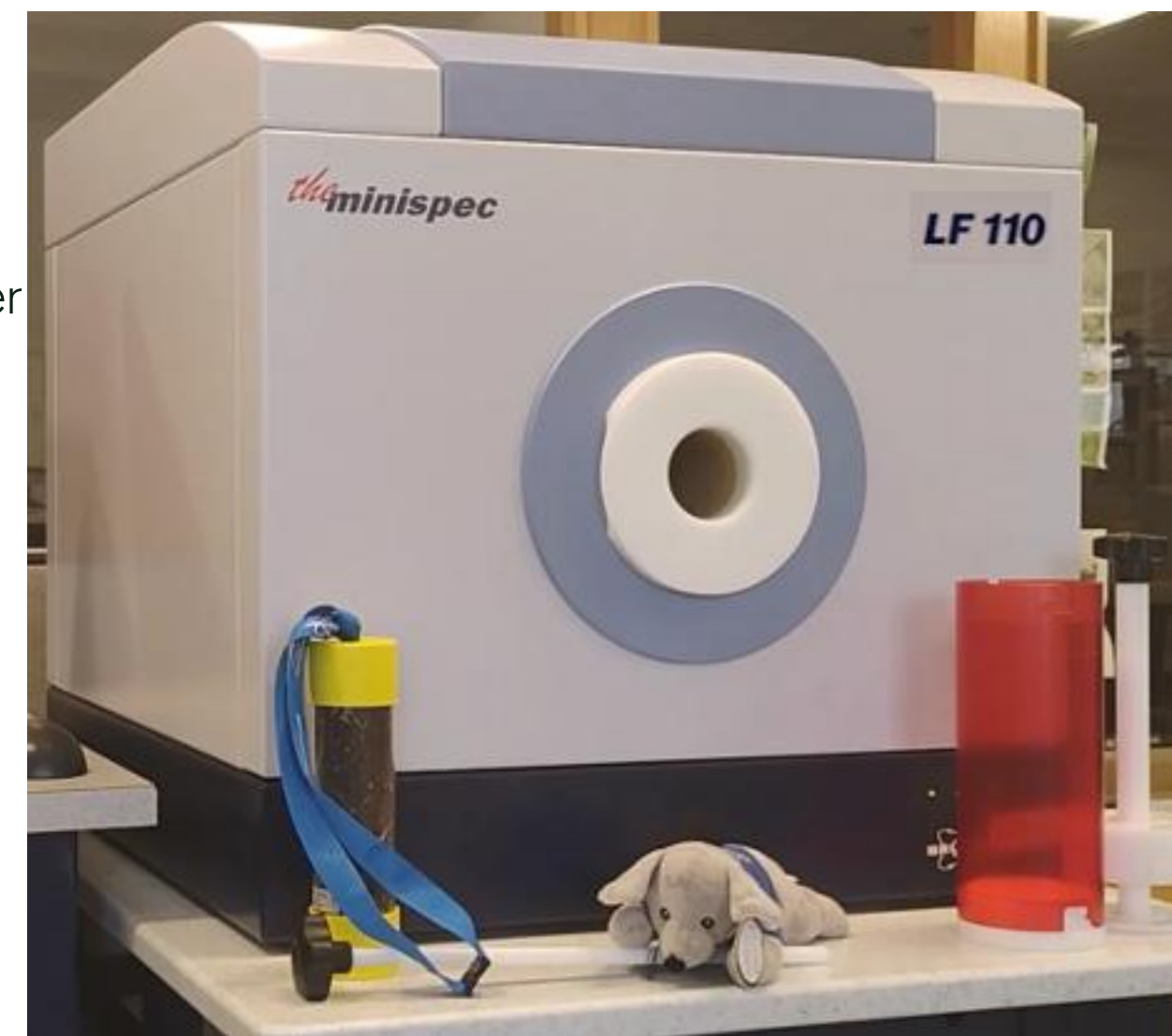


Figure A: Percent fat, fluid, and lean muscle mass over the course of the study measured weekly by quantitative NMR.

Figure B: Fat, fluid, and lean muscle mass (in grams) measured at study termination by quantitative NMR.

Figure C: Gonadal fat, inguinal fat, and gastrocnemius muscle (left and right) mass, in grams, calculated by weighing tissues after excision.

Anamorelin Treatment

- **Description:** Tumor-bearing and sham-inoculated animals were monitored to evaluate the effects of Anamorelin on cancer-associated cachexia. Body weight, tumor growth, food intake, clinical observations, and terminal tissue weights were assessed to characterize cachexia progression and treatment response.

- **Results:** Anamorelin did not affect tumor growth but improved select cachexia-related endpoints, including clinical condition, transient food intake, and preservation of gonadal fat mass, relative to vehicle-treated controls.

Study groups:

- Group 1: Sham (PBS only) inoculation, no treatment
- Group 2: C26 subcutaneous inoculation, PBS treatment
- Group 3: C26 subcutaneous inoculation, Anamorelin treatment (30mpk PO)

- **Termination** on Study Day 31: collection of gonadal fat, inguinal, gastrocnemius muscle, tibialis muscle, heart, and liver.

