Clinical and Experimental Radiobiology Course

Tutorial 7

Wi-Fi

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Piazza

https://piazza.com/utoronto.ca/winter2025/**mbp1301h**

Tutorial 7

- **Lecture 19: Clinical approaches to target hypoxia**
  - ***Dr. Kathy Han***

Lecture 19: Hypoxia, Clinical

Which of the following is the *least* invasive method to select patients with hypoxic tumors for a new clinical trial of hypoxia-targeted treatment?

A. **Oxygen electrode measurements**

B. **Biopsies to assess HIF or HIF-related genes (CAIX)**

C. **Biopsies following administration of pimonidazole**

D. **Biopsies to evaluate a multi-gene signature of hypoxia**

E. **FAZA PET imaging**

Lecture 19: Hypoxia, Clinical

Which of the following targets tumor hypoxia by mimicking the radiosensitizing properties of oxygen?

A. **Nimorazole**

B. **Tirapazamine**

C. **Sorafenib**

D. **Nicotinamide**

E. **TH-302 (Evofosfamide)**

Lecture 19: Hypoxia, Clinical

Hypoxic cell cytotoxin:

A. **Act primarily by inhibiting mitochondrial metabolism leading to cell death**
B. **Kill only hypoxic cells**
C. **Are routinely used in clinical practice of head and neck patients**
D. **Are bioreductive pro-drugs that are activated and become cytotoxic under hypoxic conditions**
E. **Are useful in all patients with cancer regardless of the amount of hypoxia**

Lecture 19: Hypoxia, Clinical

Discussion:

What are barriers to widespread clinical implementation of hypoxia-targeting therapies?