

Date approved:

IN VITRO STUDY DESIGN & BEAM REQUEST

Please email completed form to ProtonResearch@cchmc.org.

PROJECT INFORMATION

Project title:

Principal investigator:

PI affiliation: CCHMC UC Other:

Research field: Biology Physics Other:

Collaborator(s):

Collaborator affiliation: CCHMC UC Other:

Project contact (name and phone number):

Initial submission date:

Modification number and date:

Requested beam time (i.e., 1 hr., etc.):

Preferred irradiation date:

STUDY OBJECTIVES

(1) Describe the key question(s) to be addressed by this experiment. List the hypothesis and expected outcomes.

(2) Define study endpoint.

(3) Provide a full list of measurements required (e.g., cell survival, RNA, protein assays).

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MODEL INFORMATION

- Cell line name:
- Any special requirements, e.g., hypoxic environment, for cell maintenance?

- Independent variable (transfections, drug exposure, etc.):
- Any cell manipulation desired to be performed at Liberty (plating, etc.)?

RADIATION TREATMENT SETUP

Type of plate or containers to be irradiated (6-well, T25, etc.). Note that all wells on the same plate will be irradiated the same.	
Beam particle/preferred delivery platform	
Transmission or Bragg peak treatment (FLASH can only be done transmission)	
Does the experiment include a high dose rate (FLASH) group	

EXPERIMENTAL SETUP

Groups	# of plates/flasks	Treatment (including physical dose, dose rate and fractionation)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

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EXPERIMENTAL PROTOCOL

(Include dates for plating, treatment, data collection, etc.)

Date	Procedure
e.g., Day 0	
Day	
Day	
Day	
Day	
Day	
Day	
Day	

REQUIRED BEAM TIME ESTIMATION

Use the guaranteed minimum productivity rates below, rounding up to the nearest hour, to estimate the required beam time.

For conventional irradiation: 8 trays/hour

For special irradiations: 7 trays/hour

Dose = Proton physical dose

*Photon equivalent dose (Assuming RBE 1.1) = Proton physical dose *1.1*

OTHER NOTES

Do you intend to use the cell incubator at Liberty for an extended period of time? Yes No

If there is any additional information you want to share or anything you want to elaborate on, please use this space.

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PRIOR RESEARCH

Is this project a continuation of prior research completed at the Proton Center? Yes No

If yes, please describe key findings and outcomes (publications, grant applications, etc.) that resulted from the prior research.

HELPFUL INFORMATION

The Liberty Proton Center has a cell culture hood, a 4°C refrigerator, a -20°C freezer compartment, and a 37°C CO2 incubator, etc. for short-term storage. Researchers should bring all other reagents, containers, dry ice, etc. they wish to use with them to the Liberty facility.

If you need to borrow an incubator for transport to/from the Liberty Proton Center, please email Alexis.Redmond@cchmc.org.