PULEX

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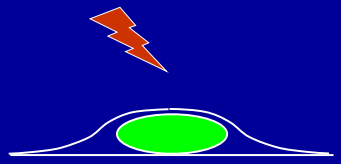
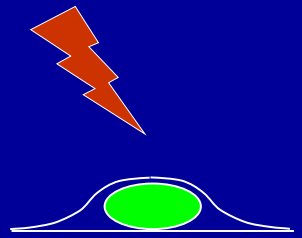
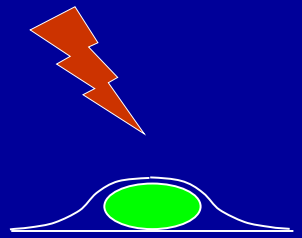
Adaptive Responses

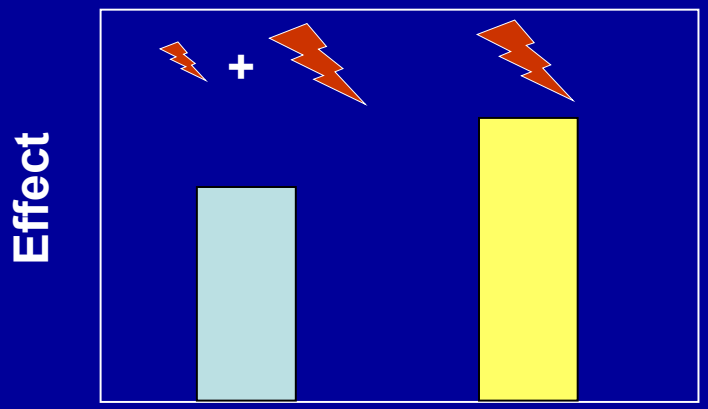
conditioning dose



challenge dose

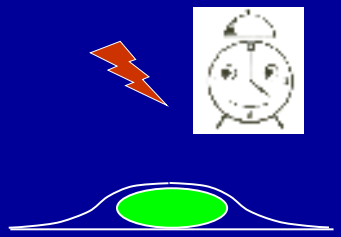




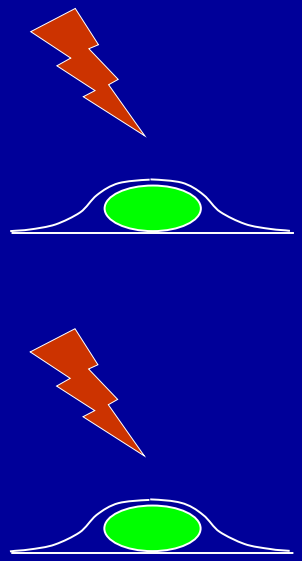


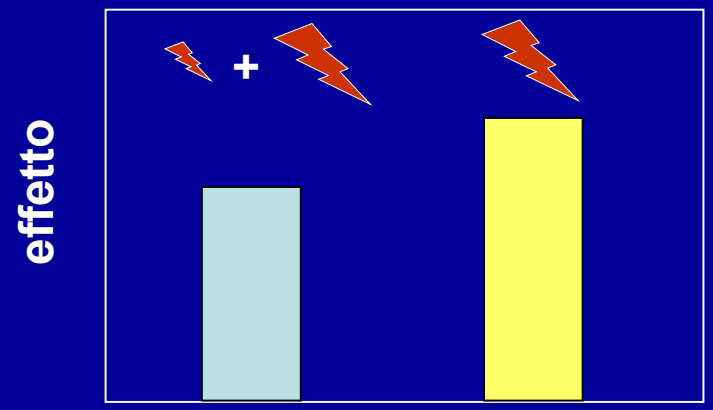
Adaptive Responses - II

Cronic conditioning with ^{3}H β-particles



challenge dose



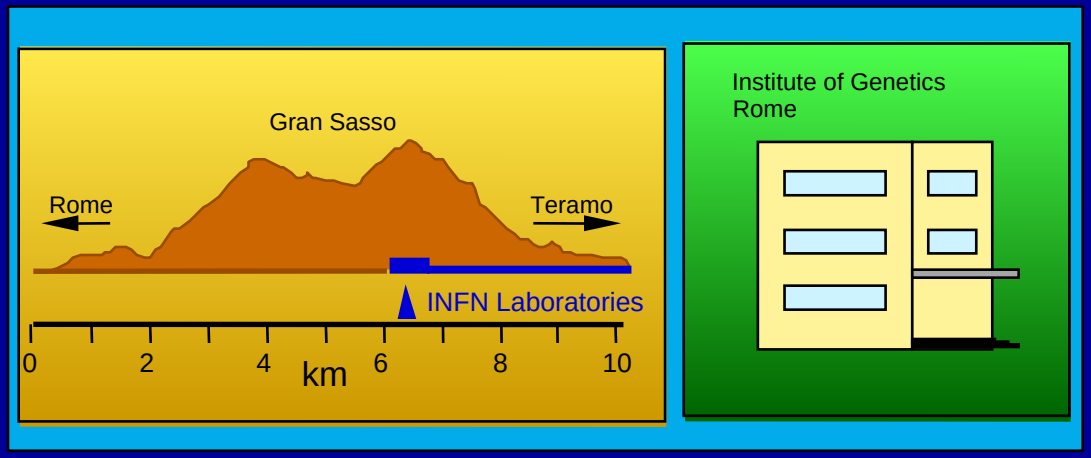


Olivieri, Bodycote and Wolff, *Science*, **1984**

Yeast (*S. Cerevisiae*)

γ-ray dose rate

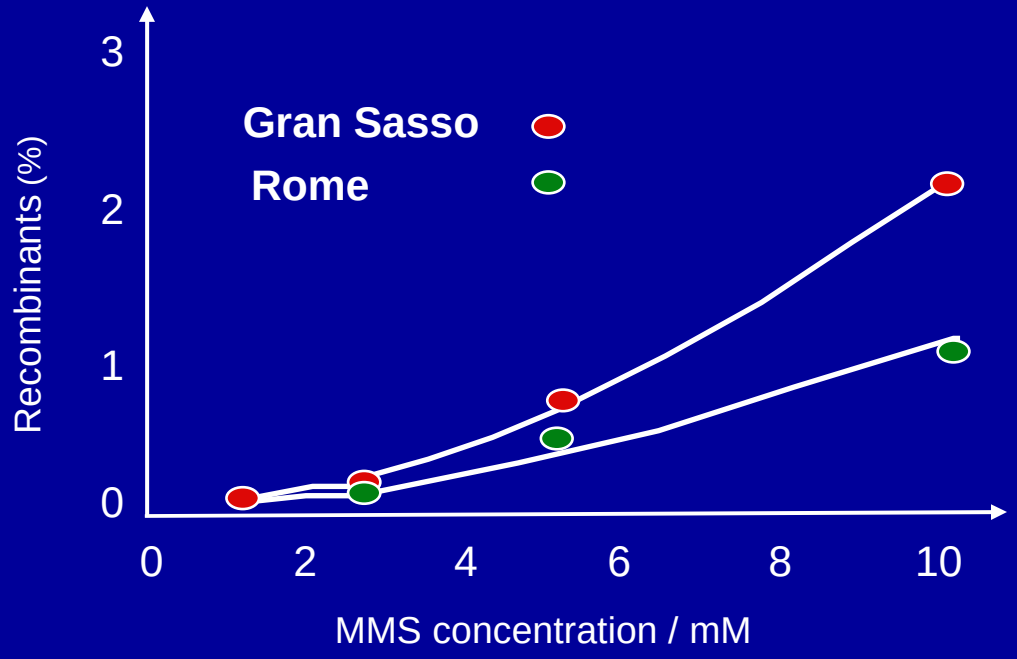
25 nGy/h



γ-ray dose rate

166 nGy/h

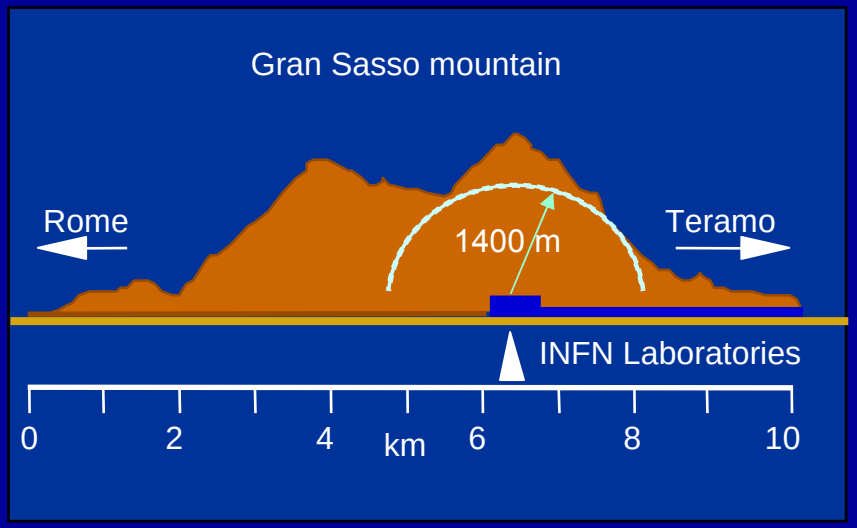
(*L. Satta et al., Mutation Research, 347, 129, 1995)*



Chinese hamster cells

Istituto Superiore di Sanità, Roma

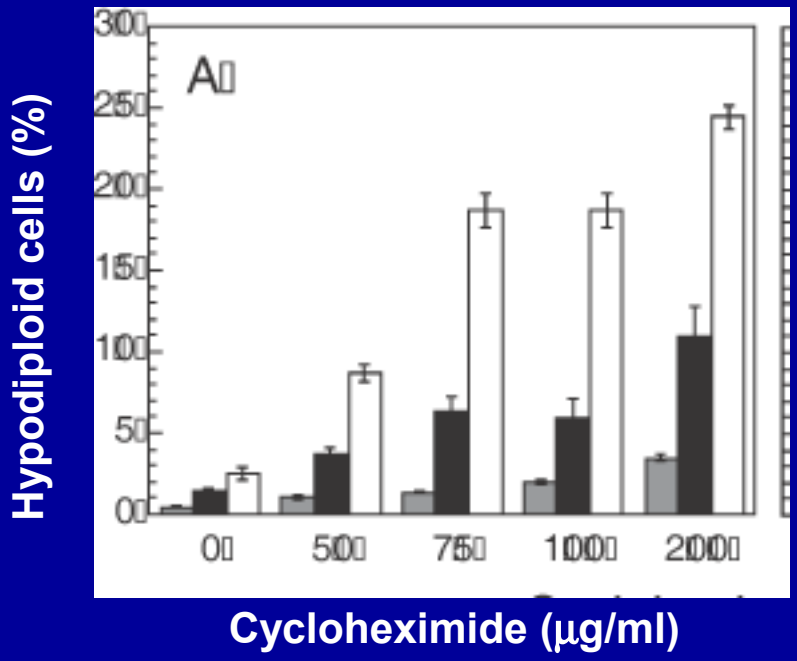
LNGS, INFN



287 ± 30 nGy/h	**γ-ray dose rate**	**4.3 ± 0.9 nGy/h**
120 Bq/m³	**radon concentration**	**5 Bq/m³**

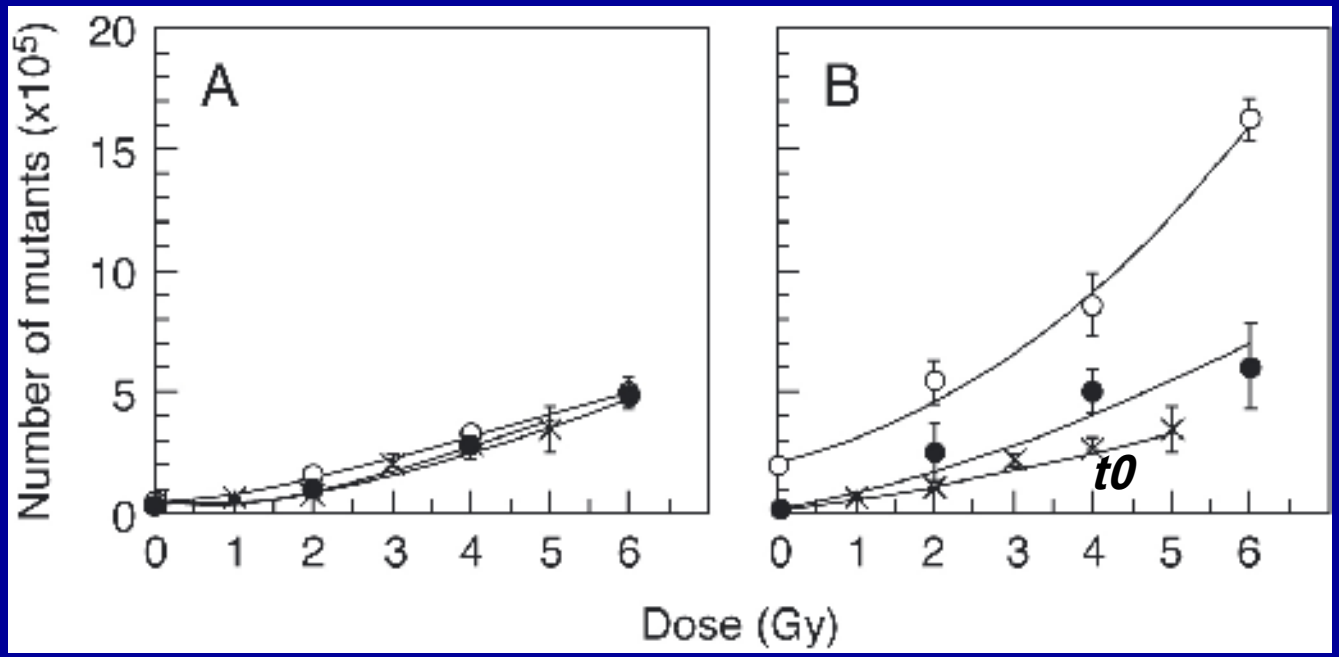
Satta, Antonelli, Belli, Sapora, Simone, Sorrentino, Tabocchini, Amicarelli, Ara, Cerù, Colafarina, Conti Devirgiliis, De Marco, Balata, Falgiani, Nisi, Radiat Environ Biophys (2002), 41:217-224

Chinese hamster cells



Apoptosis induction by cycloheximide in V79 cells cultured for 3 months

Chinese hamster cells



LNGS

Roma

Mutation induction by γ-rays after 3 (panel A) and 9 (panel B) months culture

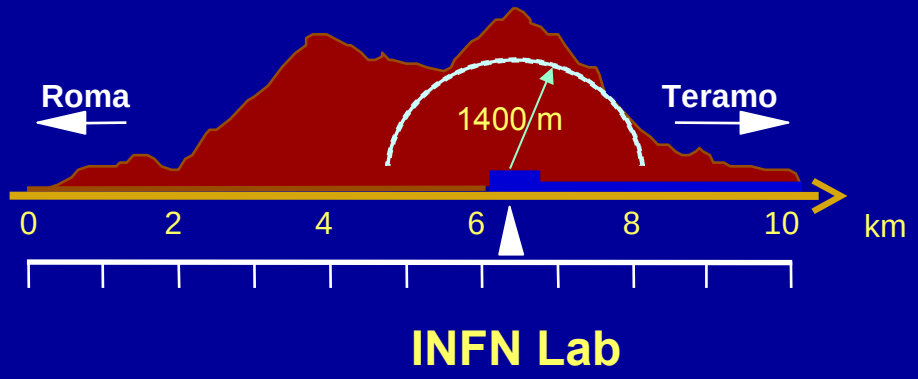
3° esperimento

(non ancora pubblicato)

INFN-LNGS

Laboratorio esterno

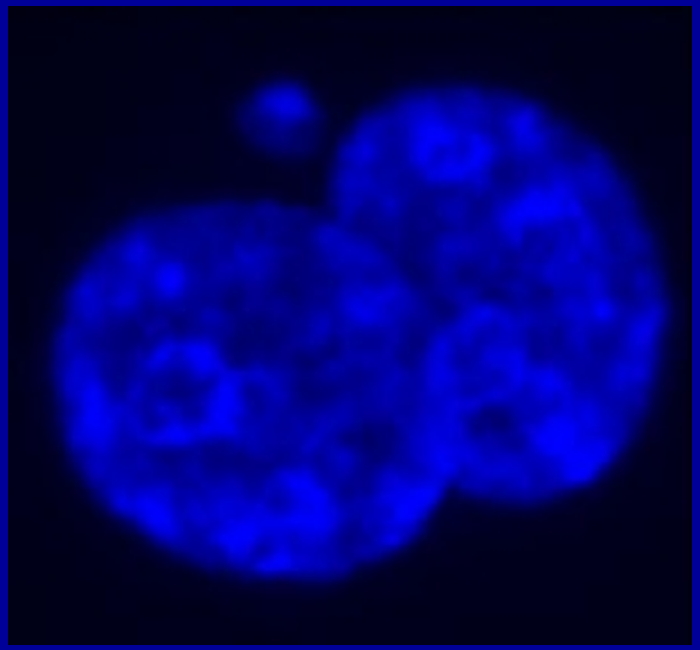
Gran Sasso d'Italia



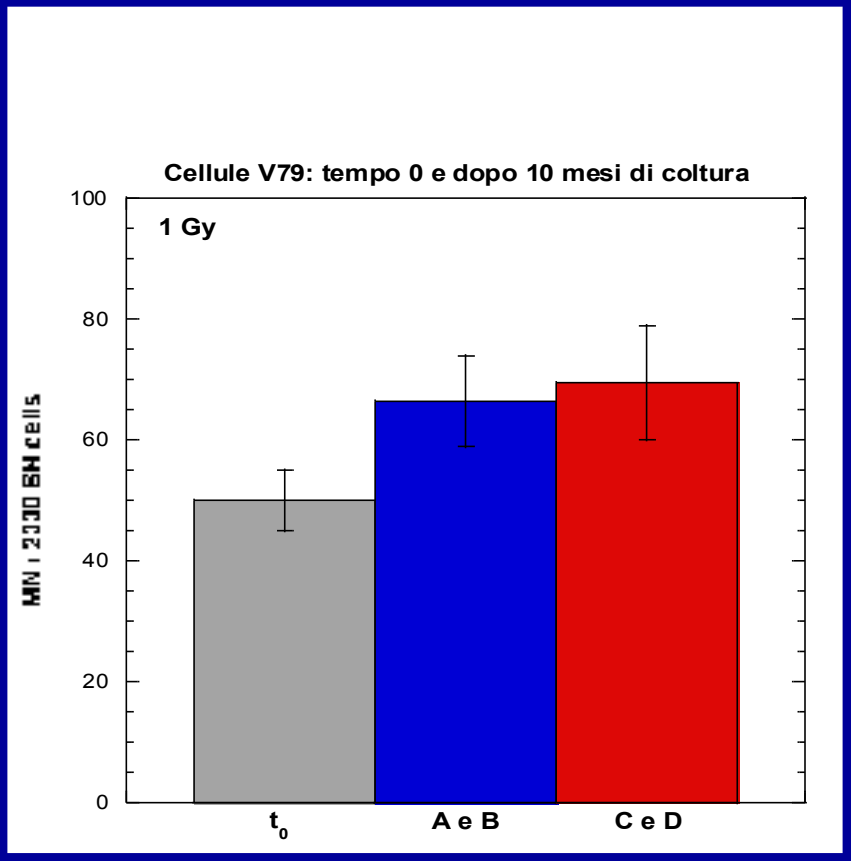
40.1 ± 4.2 nGy/h
5 Bq/m³

γ-ray dose rate
radon concentration

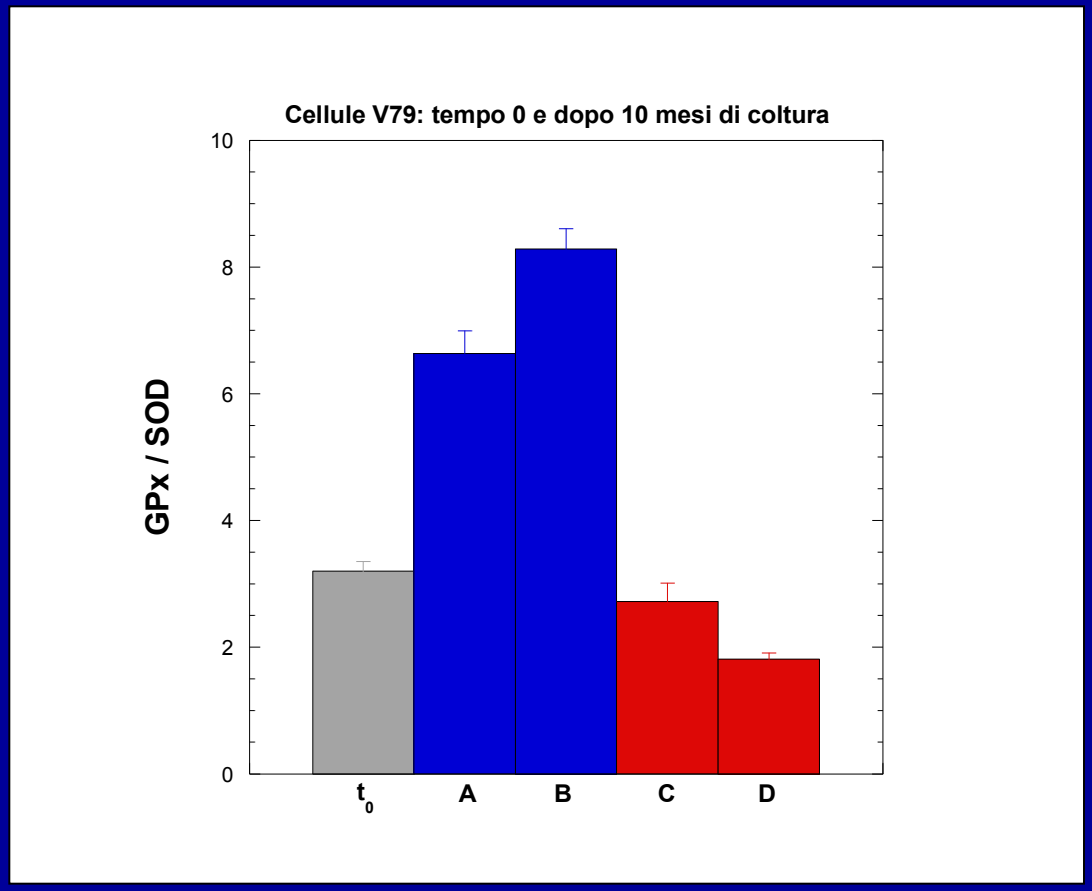
4.3 ± 0.9 nGy/h
5 Bq/m³



Induzione di micronuclei



Dosaggi enzimatici



Induzione di apoptosi

3 mesi	Cn	CHX
A	0.6	13.1
B	0.3	1.2
C	0.1	20.1
D	0.6	3.3

10 mesi	Cn	CHX
A	0.4	53.7
B	0.9	11.1
C	0.9	71.9
D	5.6	34.6

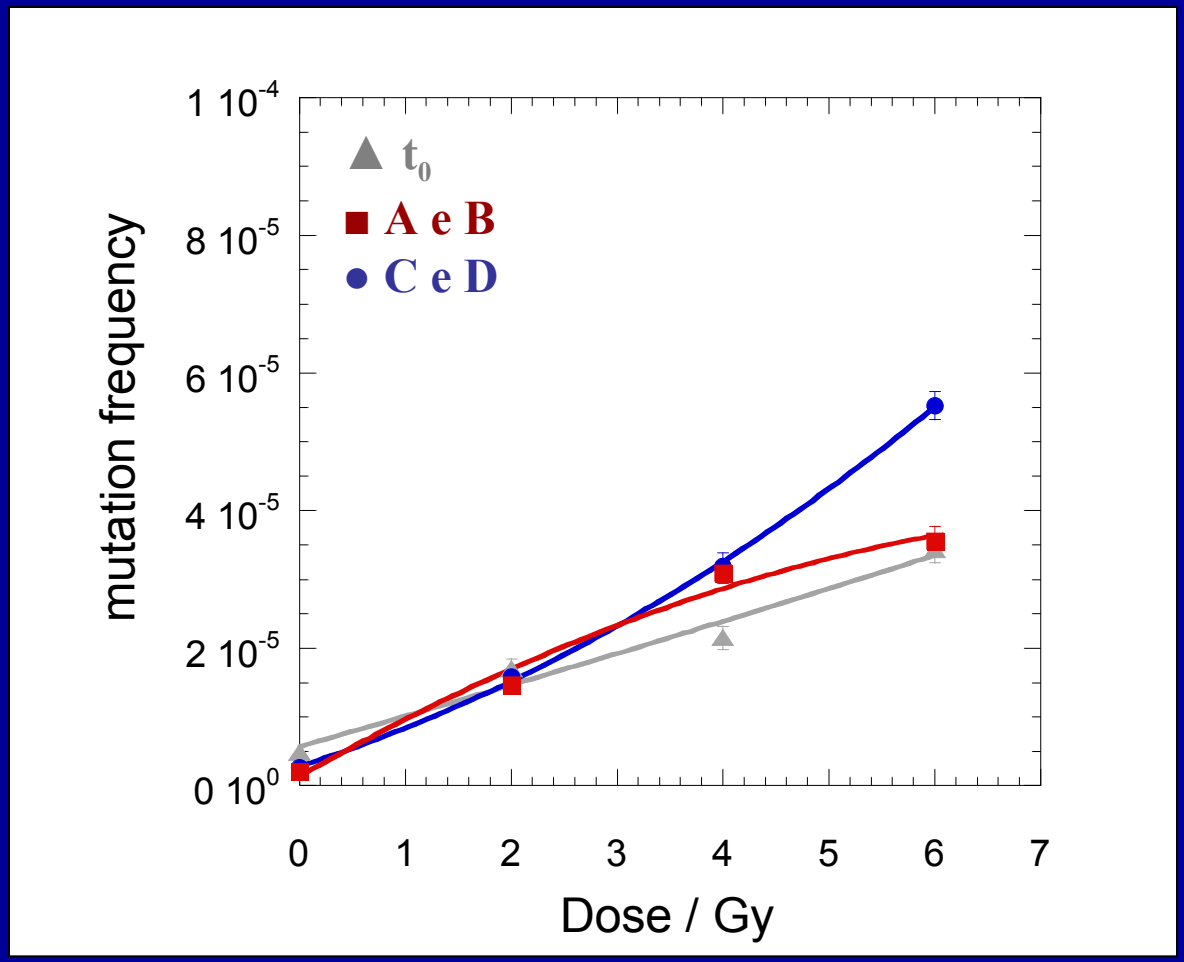
- Apparente disomogeneità tra coppie di colture sia all'interno che all'esterno della galleria del Gran Sasso

- Mediando le misure di apoptosi per le due colture esterne e per le due colture interne, si ha comunque una indicazione di maggiore sensibilità al trattamento con cicloesimide della coltura interna rispetto a quella esterna

3 mesi	Cn	CHX
A e B	0.45	7.15
C e D	0.35	11.7

10 mesi	Cn	CHX
A e B	0.65	32.4
C e D	3.25	53.25

Induzione di mutazioni
(dopo 3 mesi di coltura)



Induzione di mutazioni
(dopo 10 mesi di coltura)