

XXXII CONGRESSO NAZIONALE AIRO
XXXIII CONGRESSO NAZIONALE AIRB
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AIRO2022

Radioterapia di precisione per un'oncologia innovativa e sostenibile

BOLOGNA, 25-27 NOVEMBRE
PALAZZO DEI CONGRESSI

 Associazione Italiana
Radioterapia e Oncologia clinica

 Società Italiana di Radiobiologia

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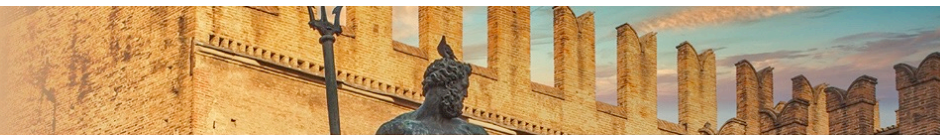
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ENHANCED RADIOSENSITIVITY IN HEAD AND NECK SQUAMOUS CELL CARCINOMA MEDIATED BY GOLD NANOARCHITECTURES (NAs)

Alessandra Gonnelli



DICHIARAZIONE

Relatore: **Alessandra Gonnelli**

Come da nuova regolamentazione della Commissione Nazionale per la Formazione Continua del Ministero della Salute, è richiesta la trasparenza delle fonti di finanziamento e dei rapporti con soggetti portatori di interessi commerciali in campo sanitario.

- Posizione di dipendente in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Consulenza ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Fondi per la ricerca da aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazione ad Advisory Board **(NIENTE DA DICHIARARE)**
- Titolarità di brevetti in compartecipazione ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazioni azionarie in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Altro

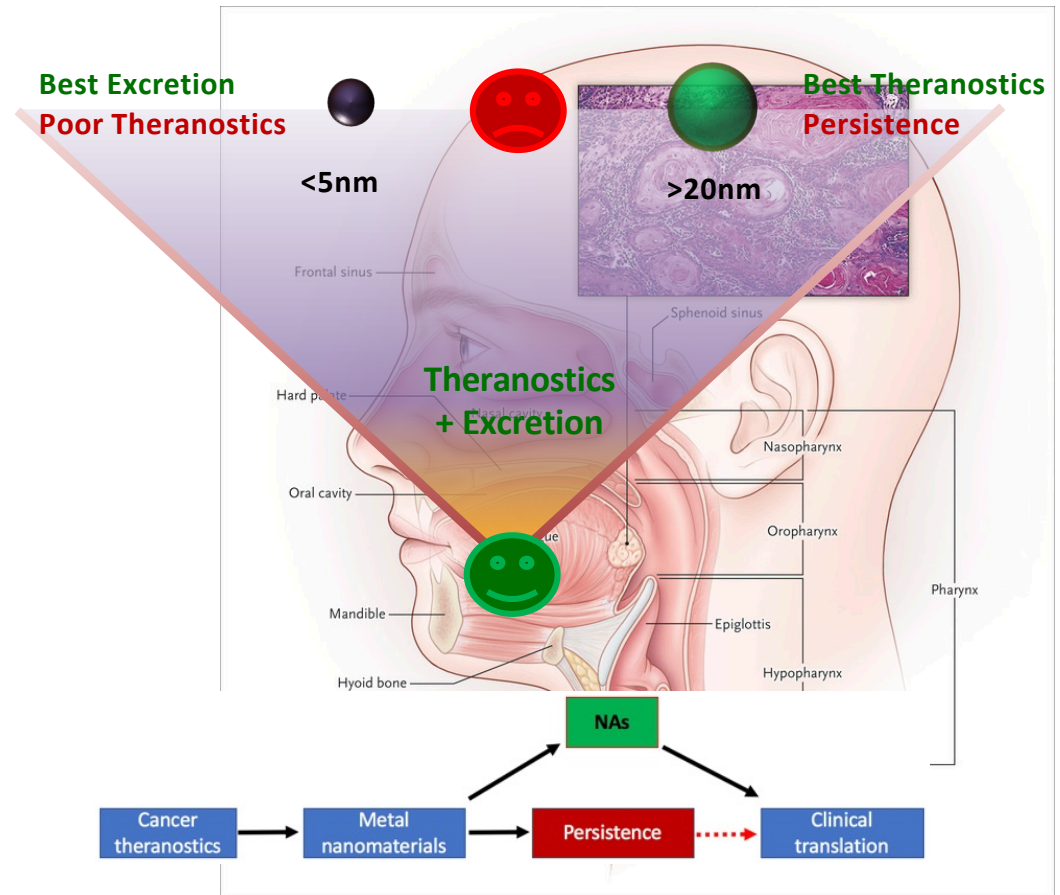
Despite advances in diagnosis and treatment, locally advanced HNSCC are characterized by high rate of recurrence resulting in poor survival.

More effective therapies to improve the patient outcomes are a critical need.

On this regard, noble metal nanoparticles (NPs) are emerging as promising agents in oncology as both drug carriers and radiosensitizers.

On the other hand, co-treatments based on noble metal NPs are still at the preclinical stage because of the associated metal-persistence.

Our group has recently developed the **ultrasmall-in-nano architectures (NAs)** which maintain the features of noble metal NPs avoiding the persistence issue.

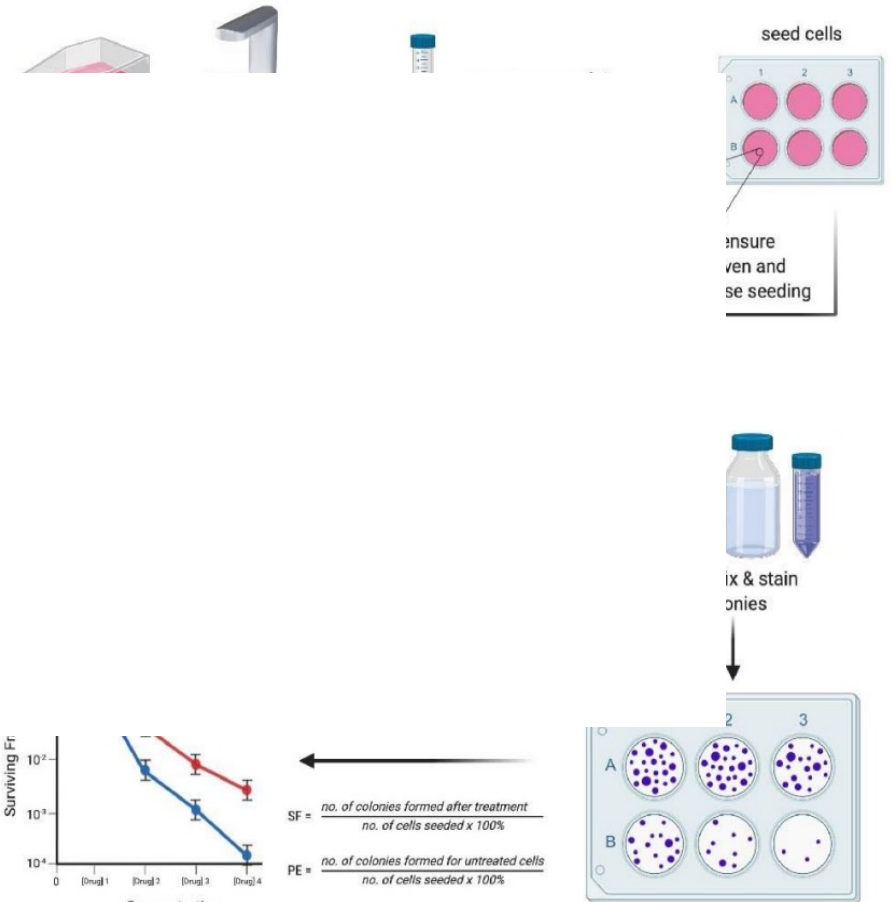


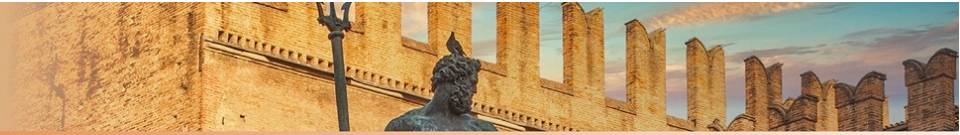


The **aim** of these study is to evaluate the in vitro efficacy of NAs as combined radiosensitizers.

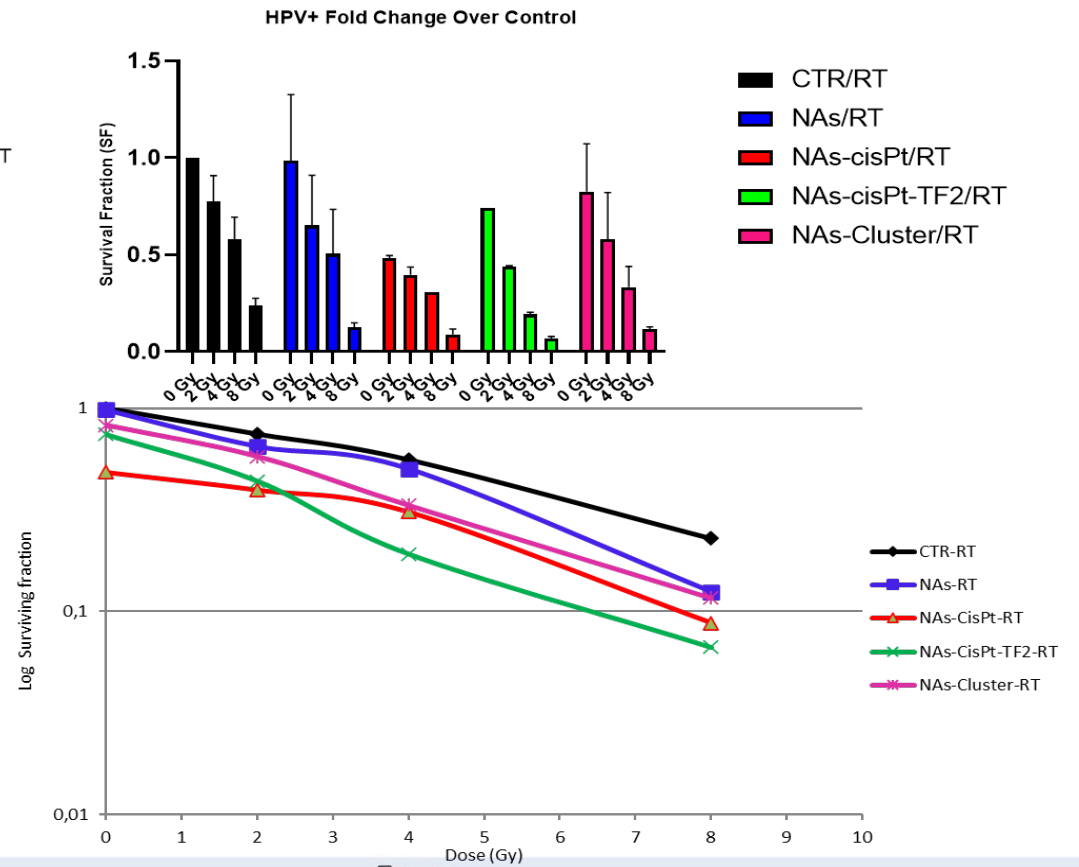
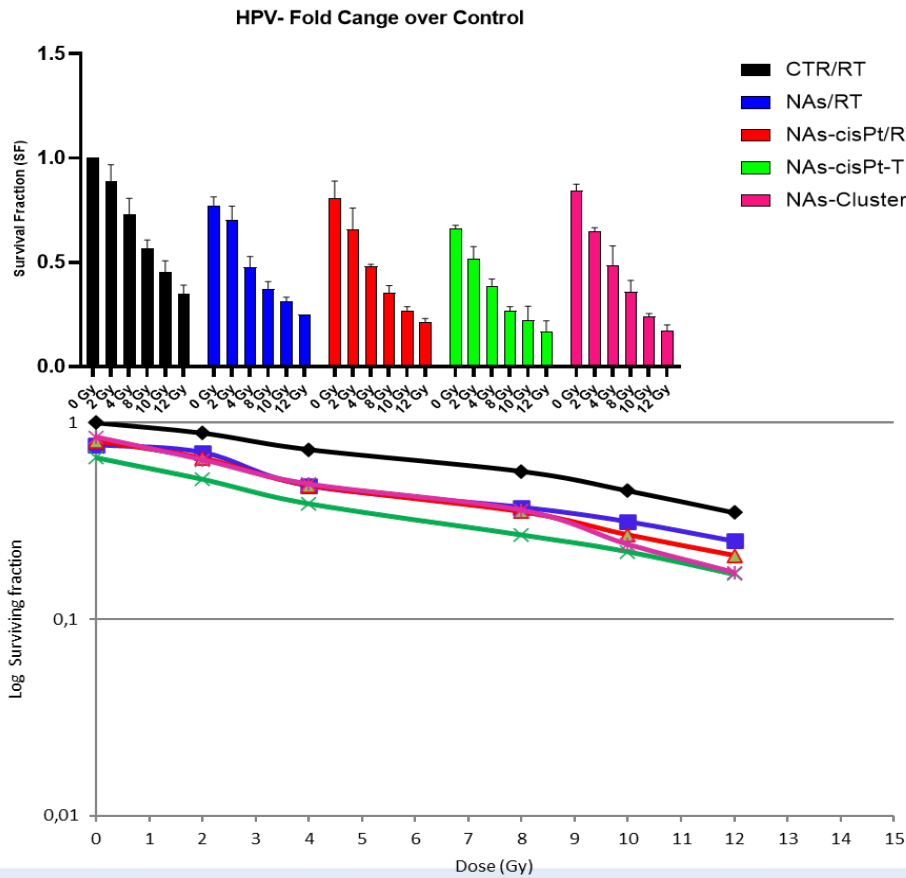
Methods:

- Two HNSCC 2d model:
 1. HPV-
 2. HPV+
- Four types of NAs:
 1. Standard NAs
 2. NAs-CisPt
 3. NAs-CisPt-TF2
 4. NAs-Cluster
- Four (Six) different RT doses:
 1. 0 Gy
 2. 2 Gy
 3. 4 Gy
 4. 8 Gy
 5. 10 Gy (HPV- model)
 6. 12 Gy (HPV- model)
- Biological and experimental replicates



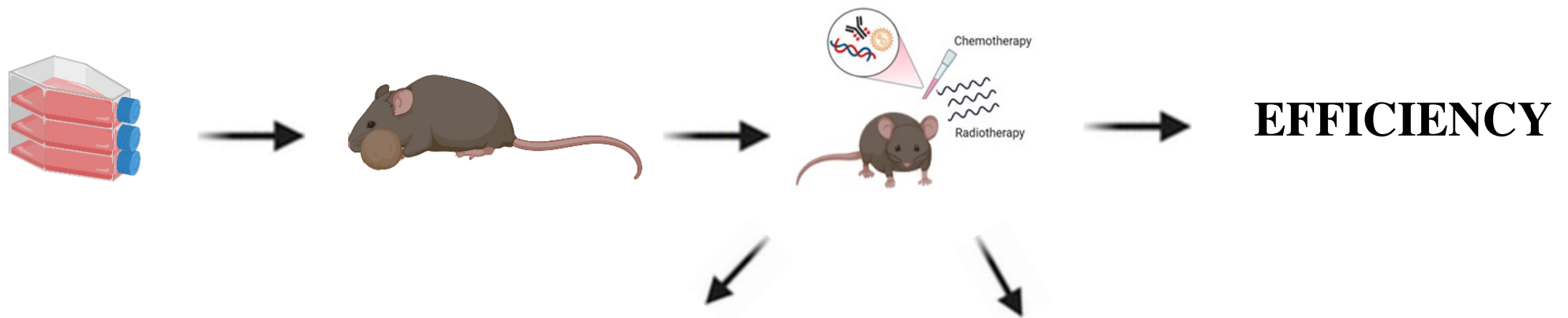


Results





Future perspectives:



HISTOLOGY:

1. YH2X
2. DNA-adducts
3. P21
4. K67

FLOW CYTOMETRY ANALYSIS:

1. VIABILITY/APOPTOSIS
2. IMMUNE INFILTRATE