

‘Sotto Pressione’: Iperbarismo tra Stress Ossidativo, Infiammazione e Rimodellamento Osseo



Anna Scotto d'Abusco
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Castello Angioino Gaeta

PATOLOGIE ASSOCIATE ALL'IPERBARISMO

Lavoratori subacquei

Patologie cardiovascolari
Patologie respiratorie
Patologie neurologiche
Patologie endocrinologiche

Patologie dell'osso



OSTEONECROSI DISBARICA - DON



MESSA A PUNTO DI UN SISTEMA *IN VITRO*

SCELTA DELLE CELLULE

- LINEA CELLULARE DI OSTEOSARCOMA
- OSTEOLASTI PRIMARI UMANI

SCELTA DELLE CONDIZIONI

- PRESSIONE A CUI SOTTOPORRE LE CELLULE
- MISCELA DA UTILIZZARE
- TEMPI DI ESPOSIZIONE
- DECOMPRESSIONE

SCELTA DELLA CAMERA IBERBARICA PER CELLULE

CAMERA IPERBARICA PER CELLULE

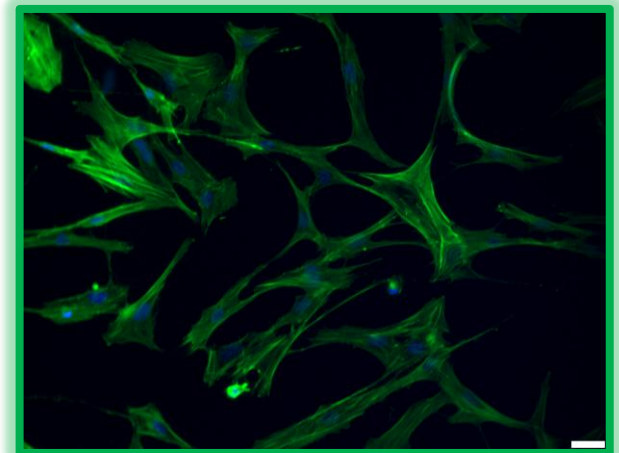
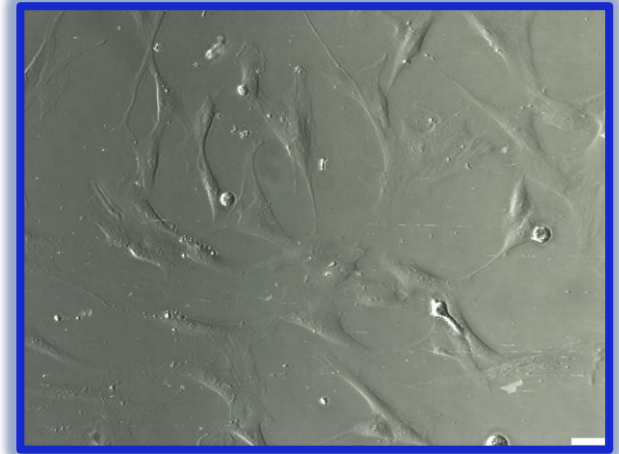


TABELLA DI DECOMPRESSIONE

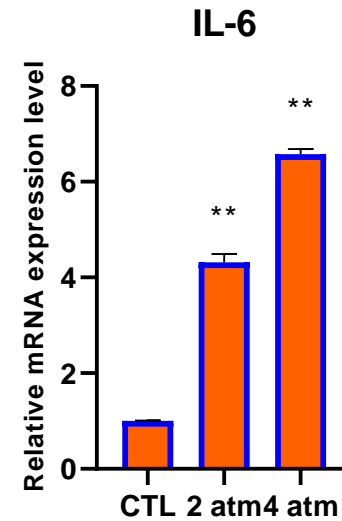
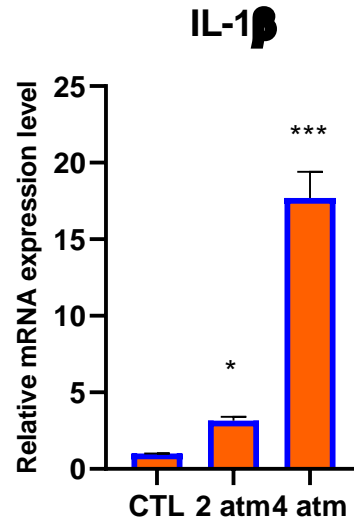
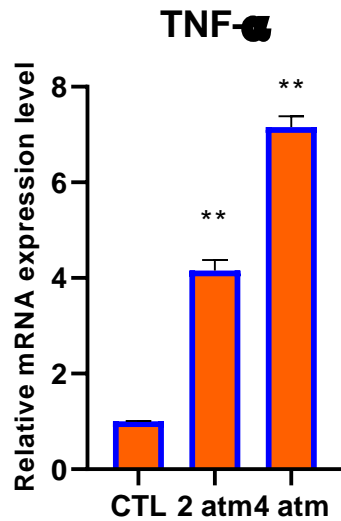
Tabella di decompressione francese* per 5 min, 25 min e 50 min a 2 atm e 4 atm

Pressure	Time	1.2 atm	0.9 atm	0.6 atm	0.3 atm
2 atm	5 min				3 min
	25 min				3 min
	50 min				7 min
4 atm	5 min				3 min
	25 min			5 min	15 min
	50 min	3 min	10 min	25 min	45 min

* <https://www.legifrance.gouv.fr/eli/arrete/2019/5/14/MTRT1901236A/jo/texte>

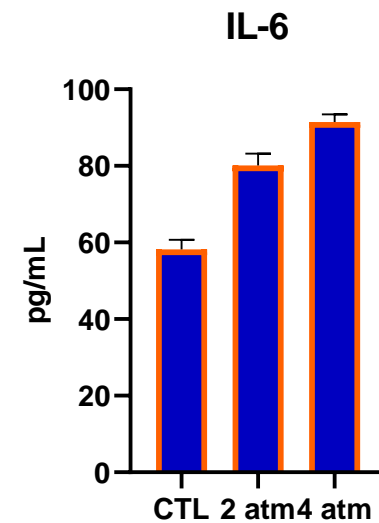
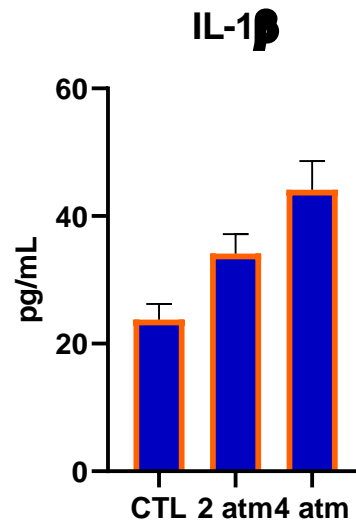
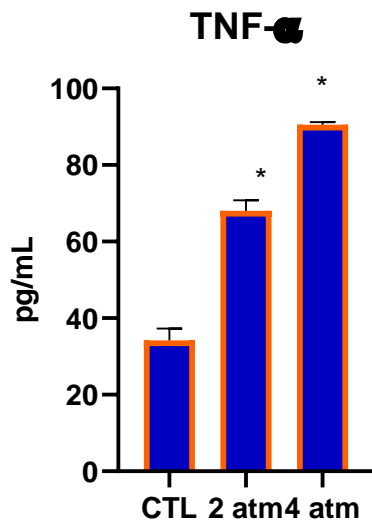
ATTIVITA' PRO-INFIAMMATORIA

25 min

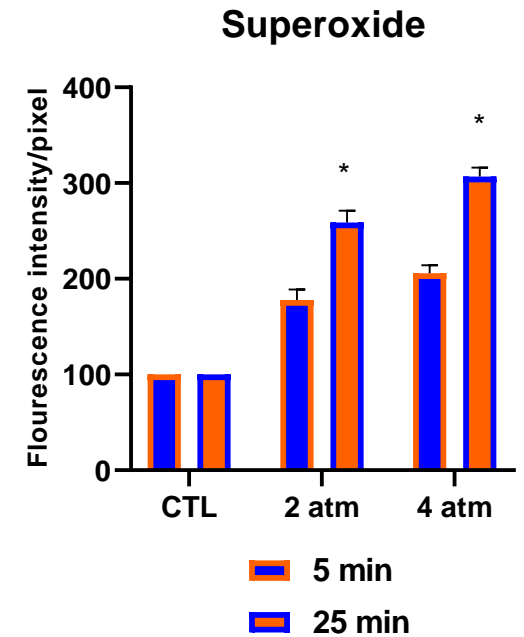
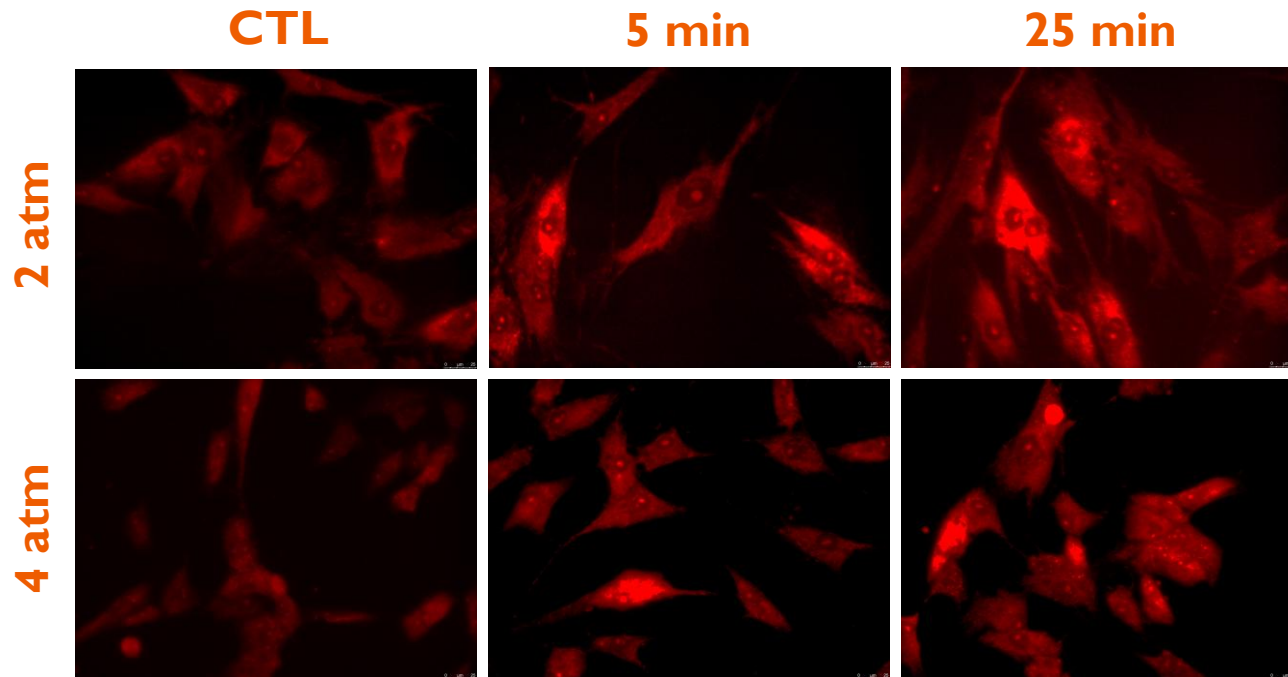


ATTIVITA' PRO-INFIAMMATORIA

25 min



STIMOLAZIONE DI ROS



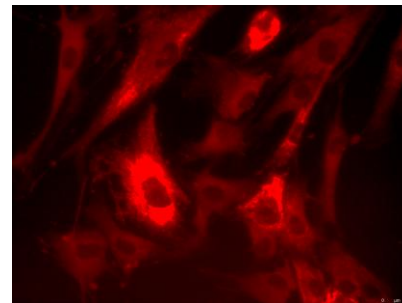
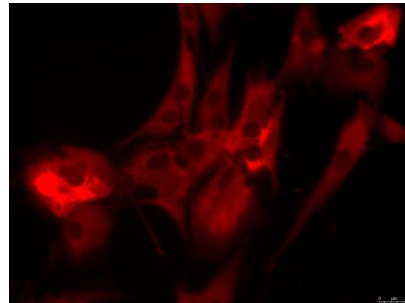
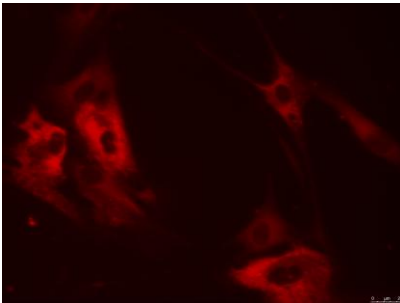
STIMOLAZIONE DI RNS

CTL

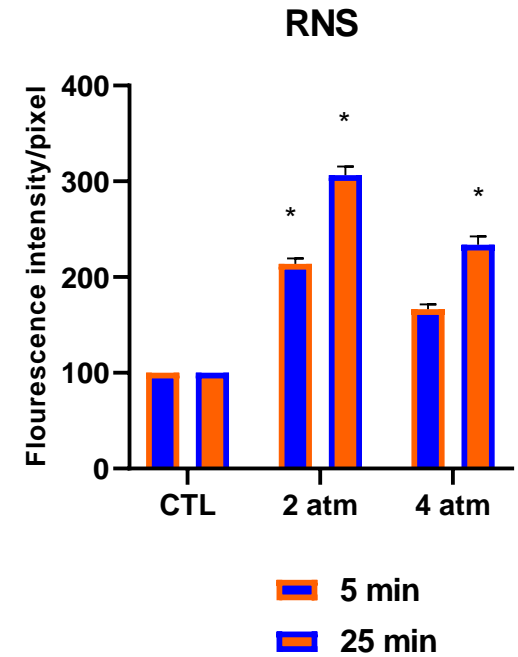
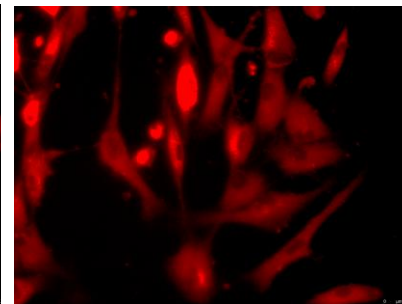
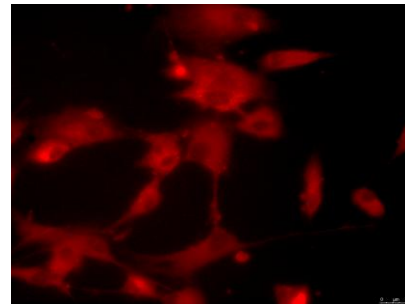
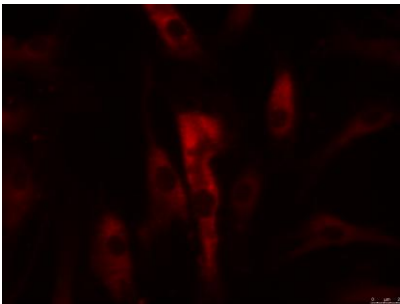
5 min

25 min

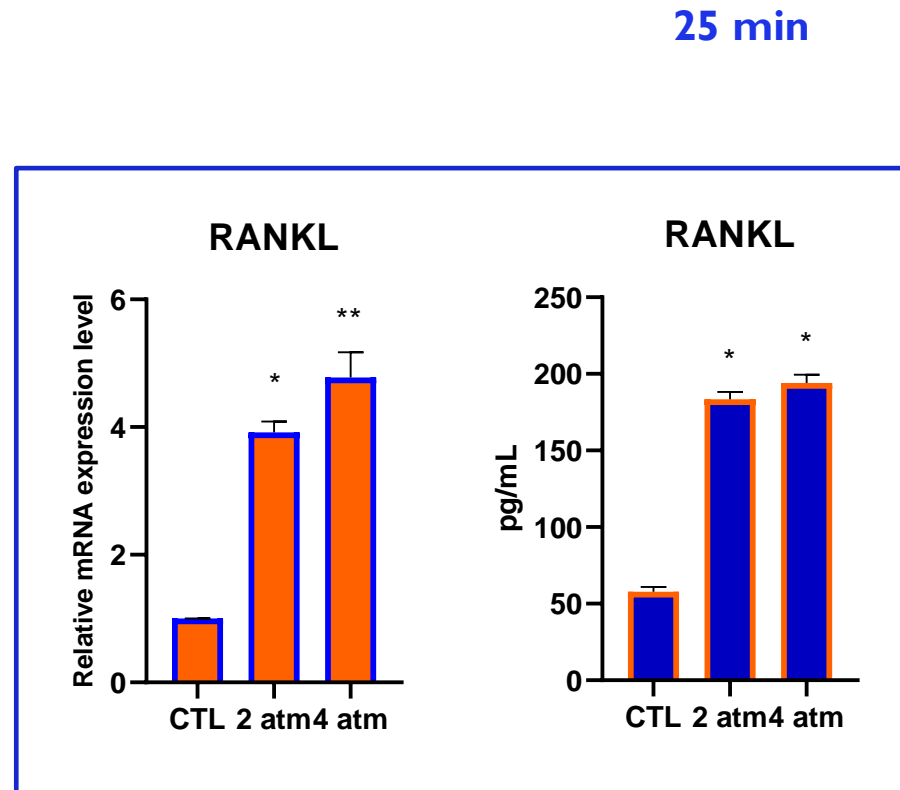
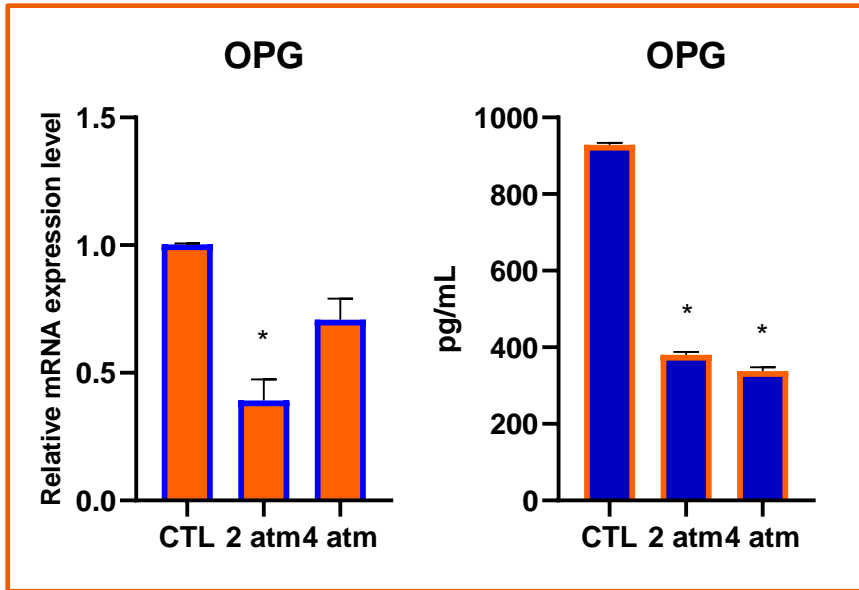
2 atm



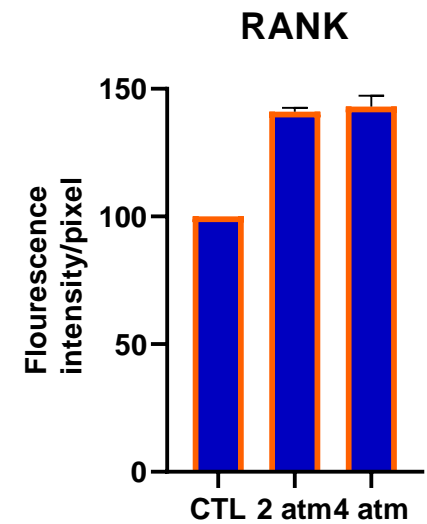
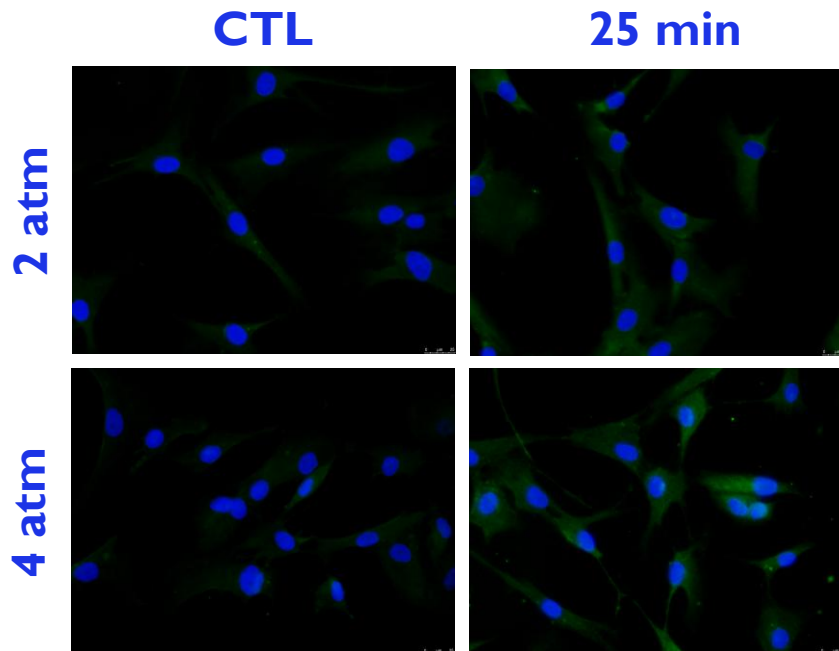
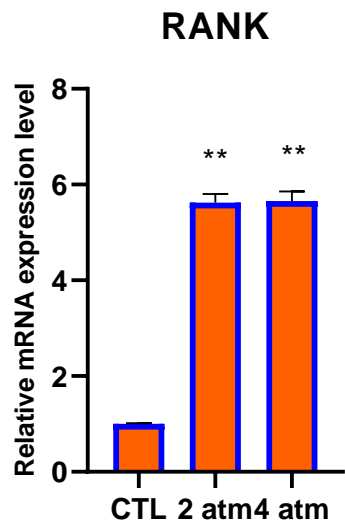
4 atm



OMEOSTASI DEL TESSUTO OSSEO

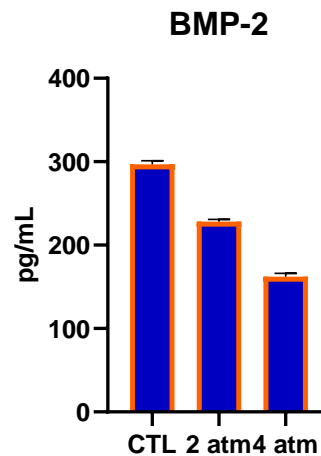
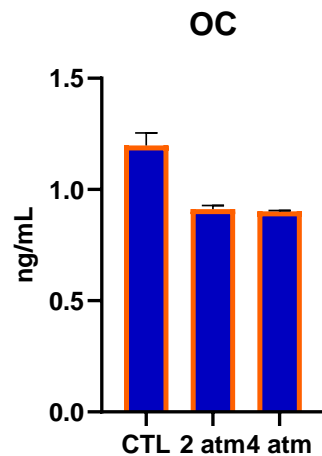
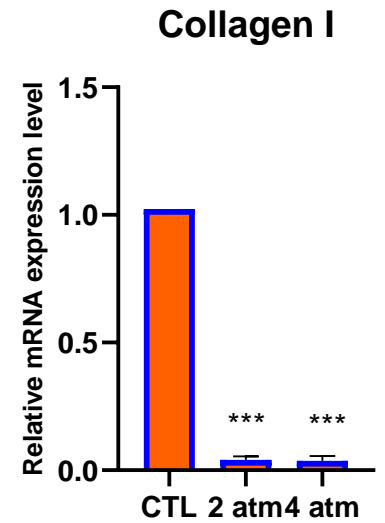
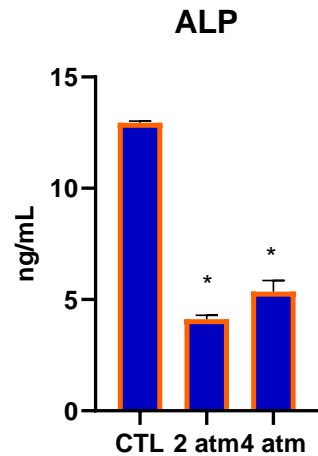
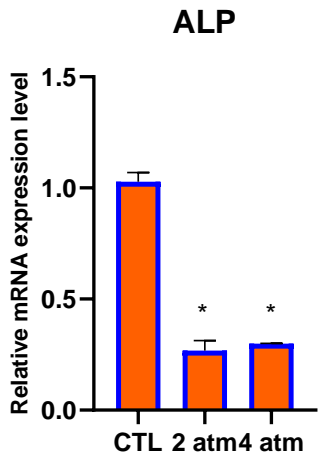


OMEOSTASI DEL TESSUTO OSSEO

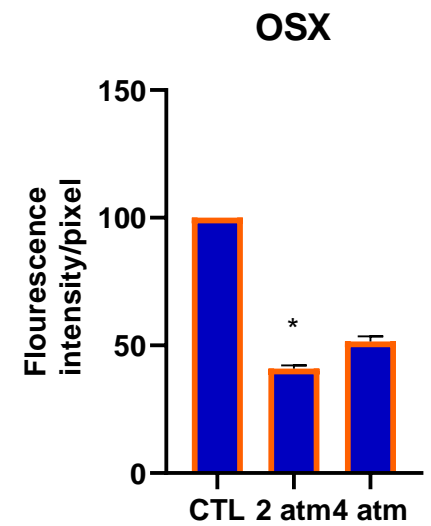
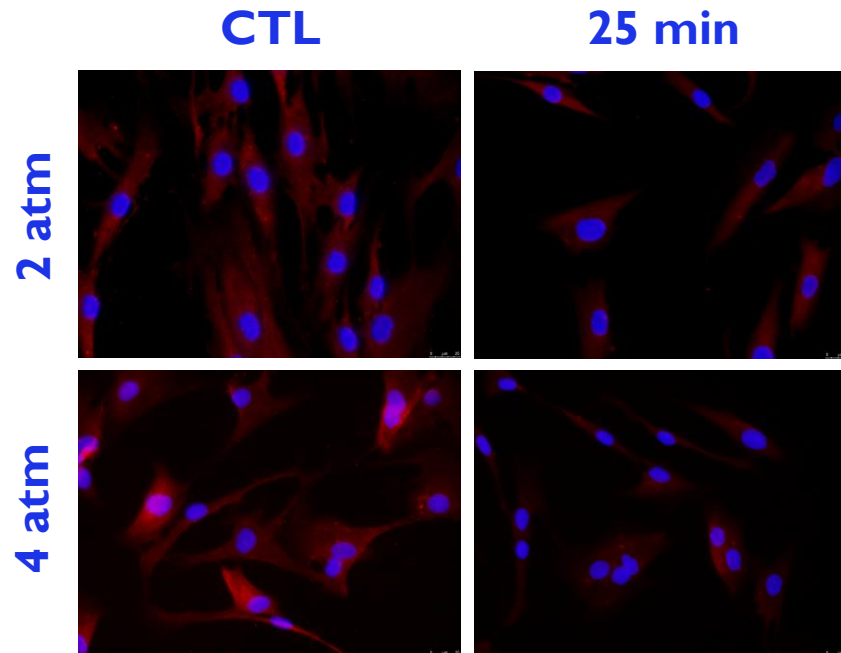
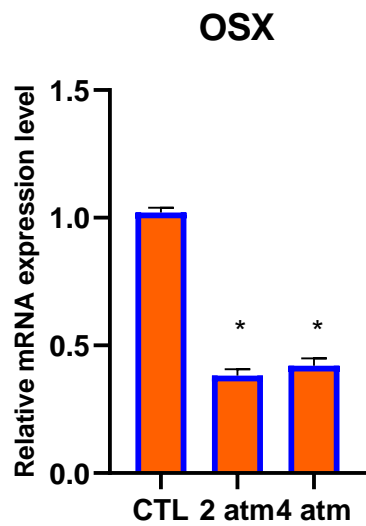


OMEOSTASI DEL TESSUTO OSSEO

25 min



OMEOSTASI DEL TESSUTO OSSEO



CONCLUSIONI

- Messa a punto del modello *in vitro*
- Stimolazione di pathways pro-infiammatori
- Attivazione dello stress ossidativo
- Alterazioni del metabolismo osseo



Article

Cell Culture in a Hyperbaric Chamber: A Research Model to Study the Effects of Hyperbarism (Hyperbaric Pressure) on Bone Cell Culture

Alessia Mariano ¹, Valerio Consalvi ², Enrico Marchetti ³, Angelo Rodio ⁴, Anna Scotto d'Abusco ^{2,*} and Luigi Fattorini ¹

GRAZIE A TUTTI PER L'ATTENZIONE

Relitto della LST-349
Il guerra Mondiale
Al largo di Ponza

