

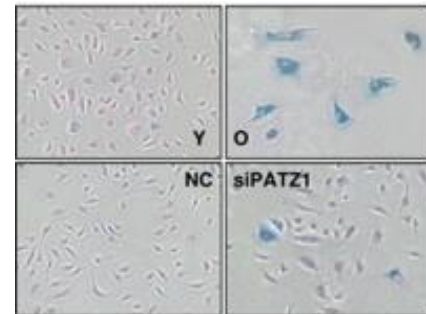
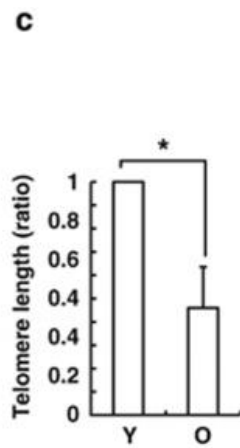
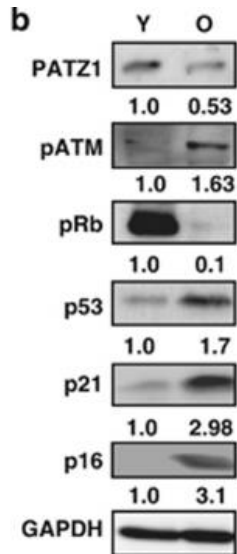
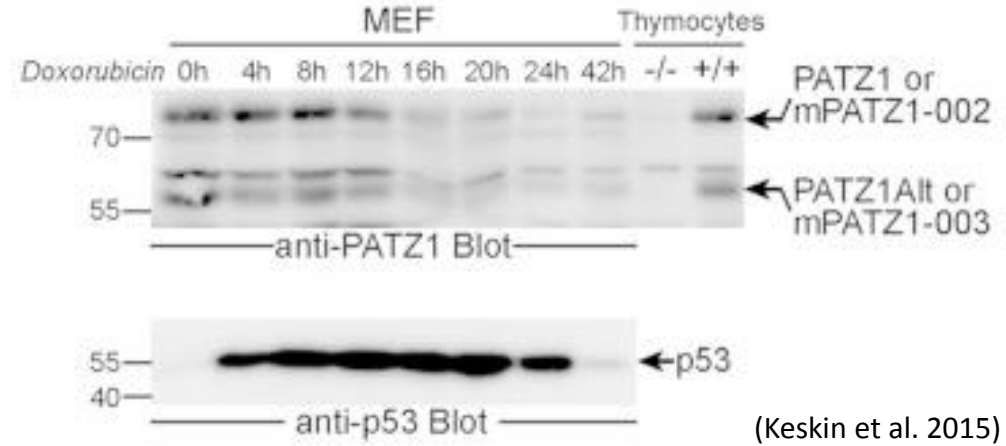
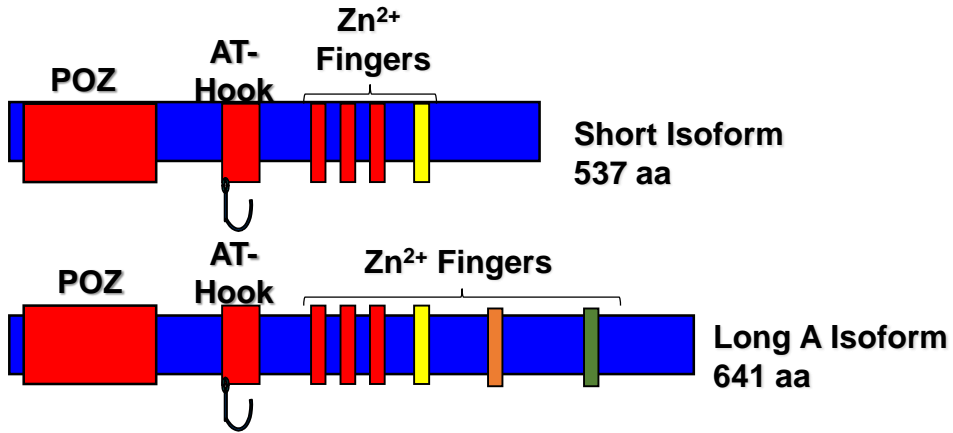
NUTRAGE
**NUTRIZIONE, ALIMENTAZIONE E
INVECCHIAMENTO ATTIVO**
Opportunità & Innovazione

16-17 maggio 2024 | Via Ugo la Malfa 153, Palermo

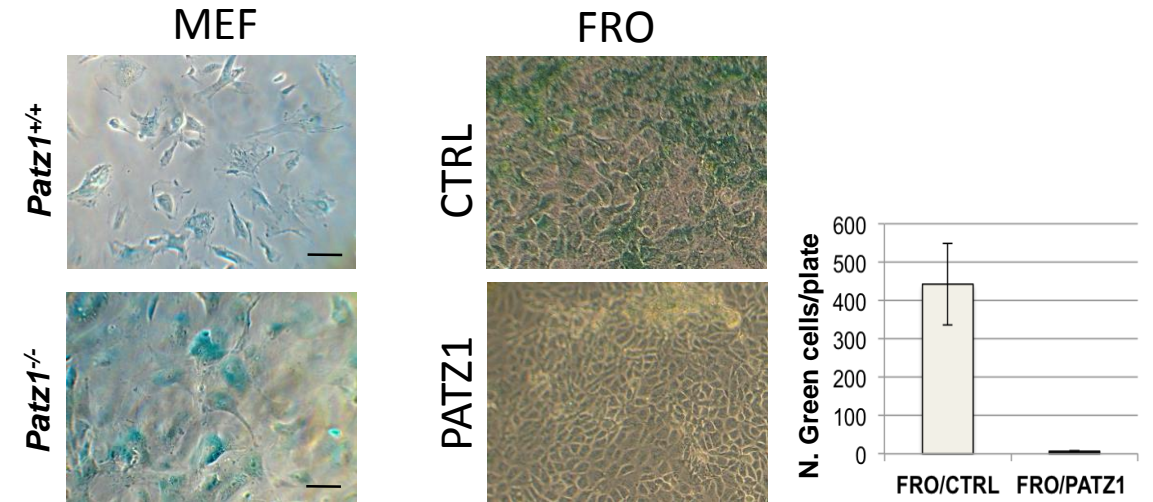


“La sovraespressione di PATZ1 sensibilizza cellule di carcinoma anaplastico della tiroide allo stress ossidativo favorendo il loro suicidio”

IL GENE PATZ1



(Cho et al. 2012)



(Valentino et al. 2013)

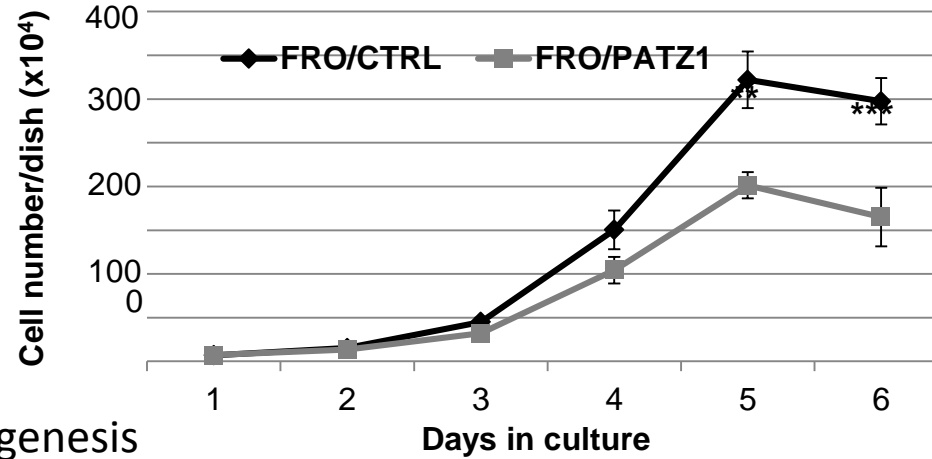
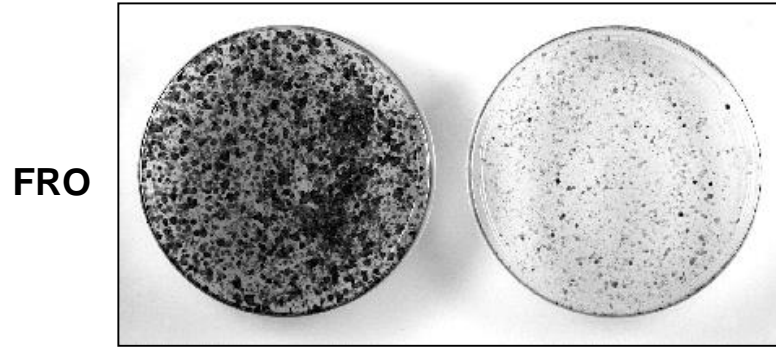
(Unpublished data)

PATZ1 AGISCE DA ONCOSOPPRESSORE NEL CANCRO DELLA TIROIDE

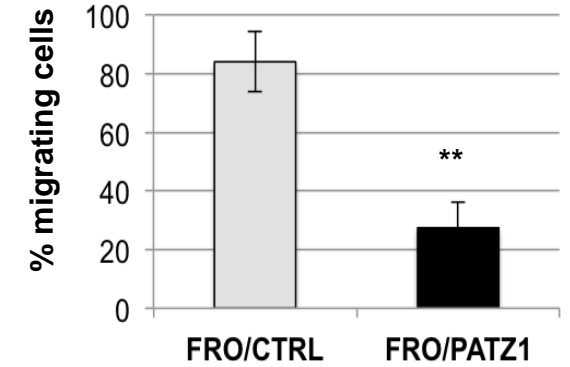
(Chiappetta et al 2015)



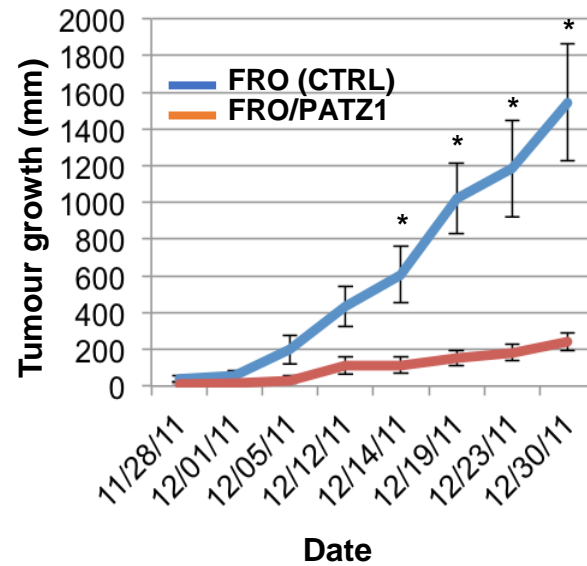
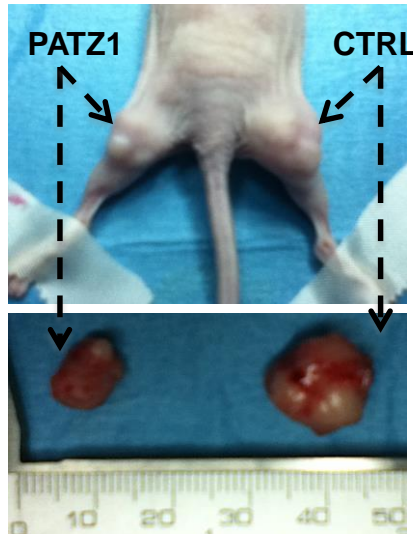
Proliferation



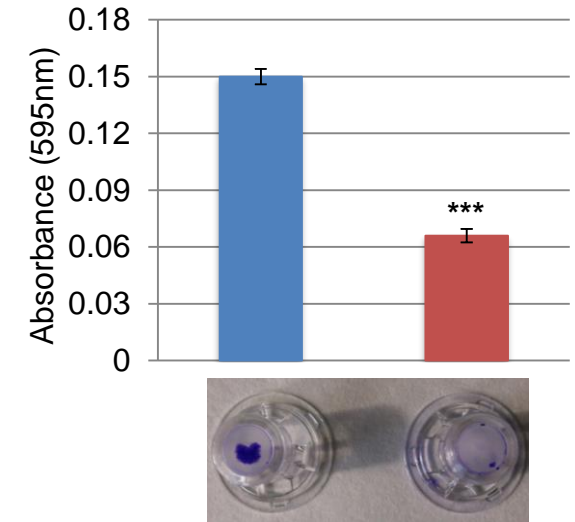
Migration



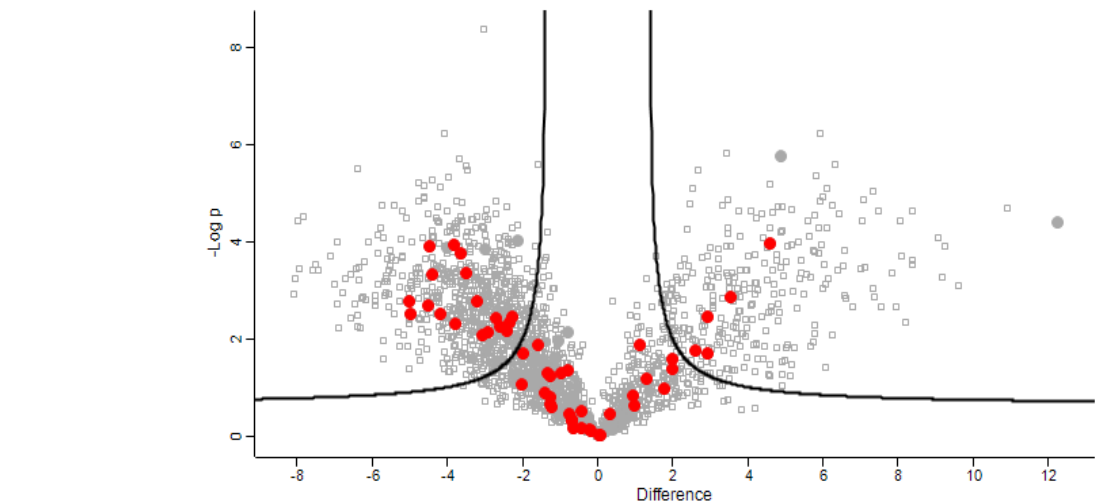
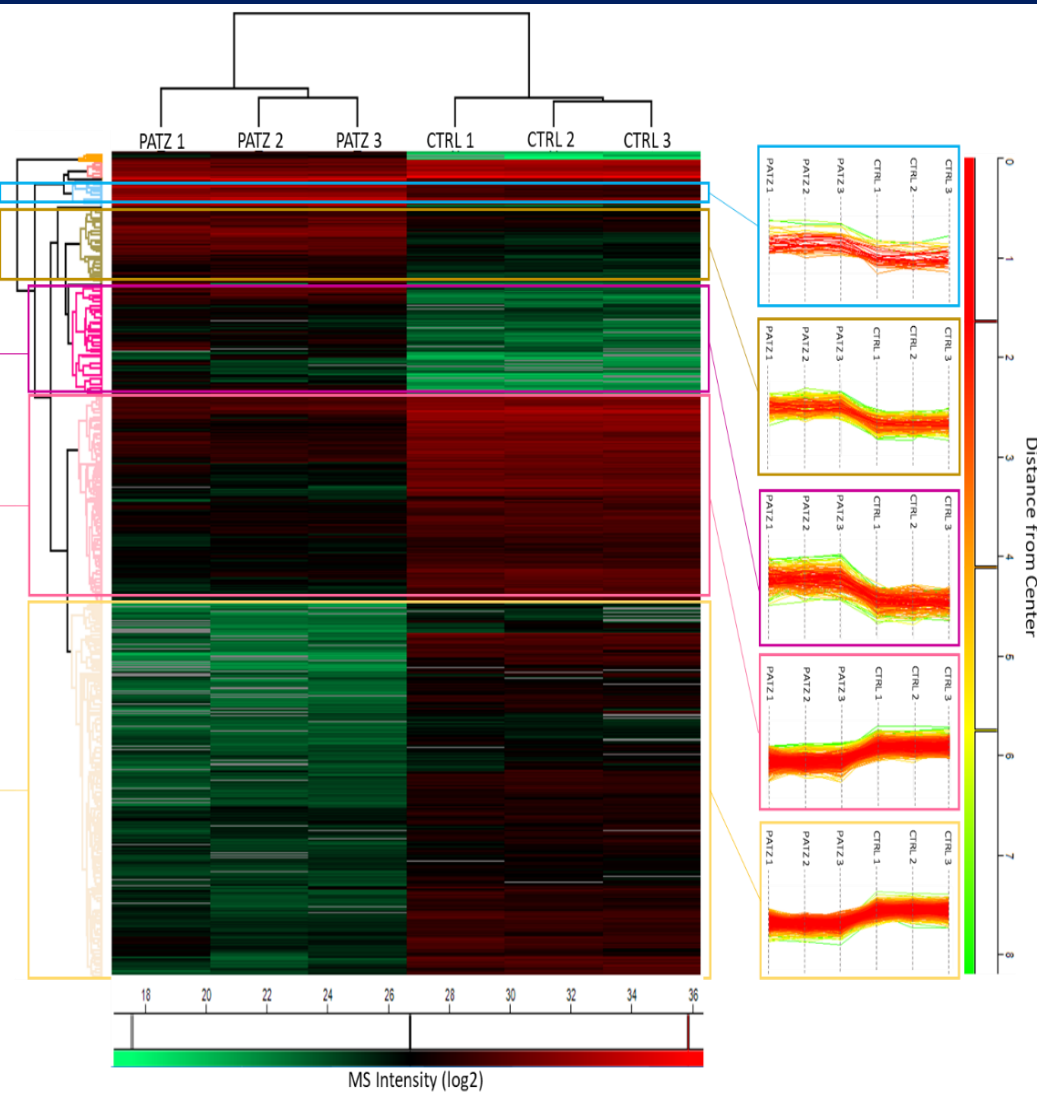
Tumorigenesis



Invasion

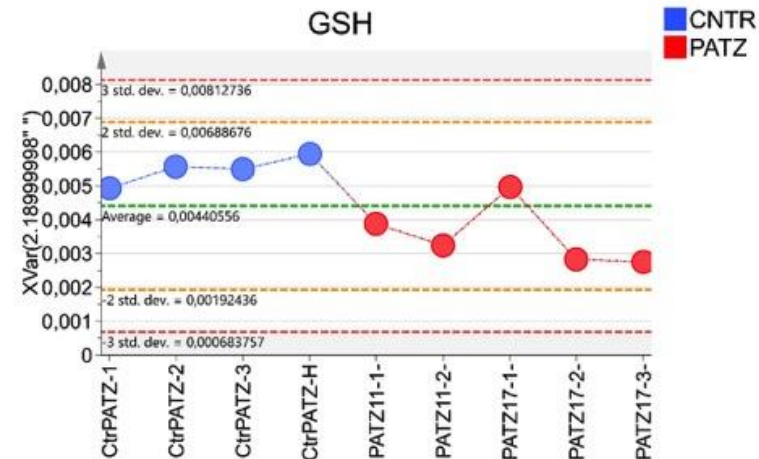
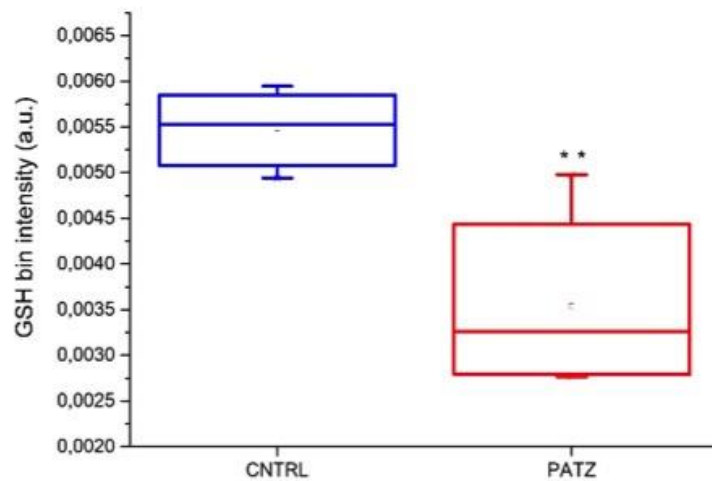
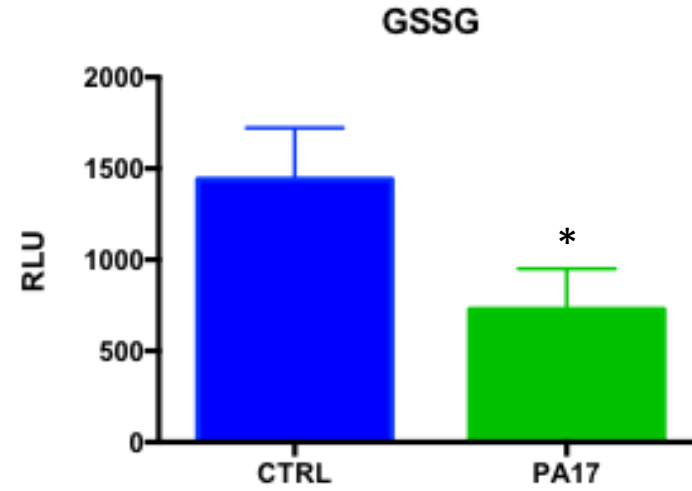
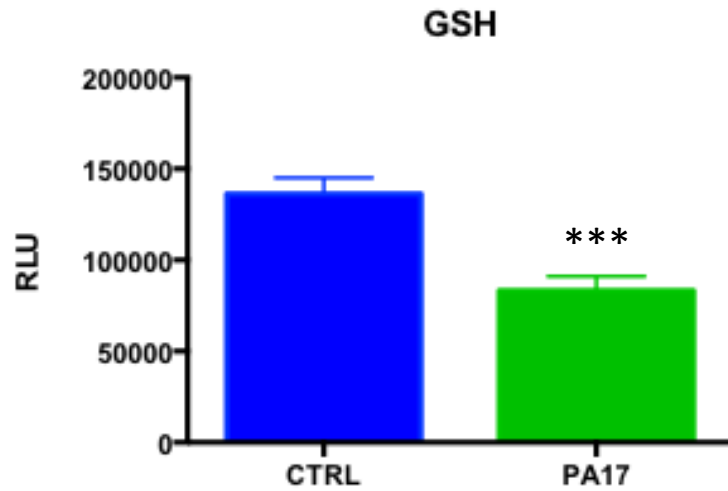


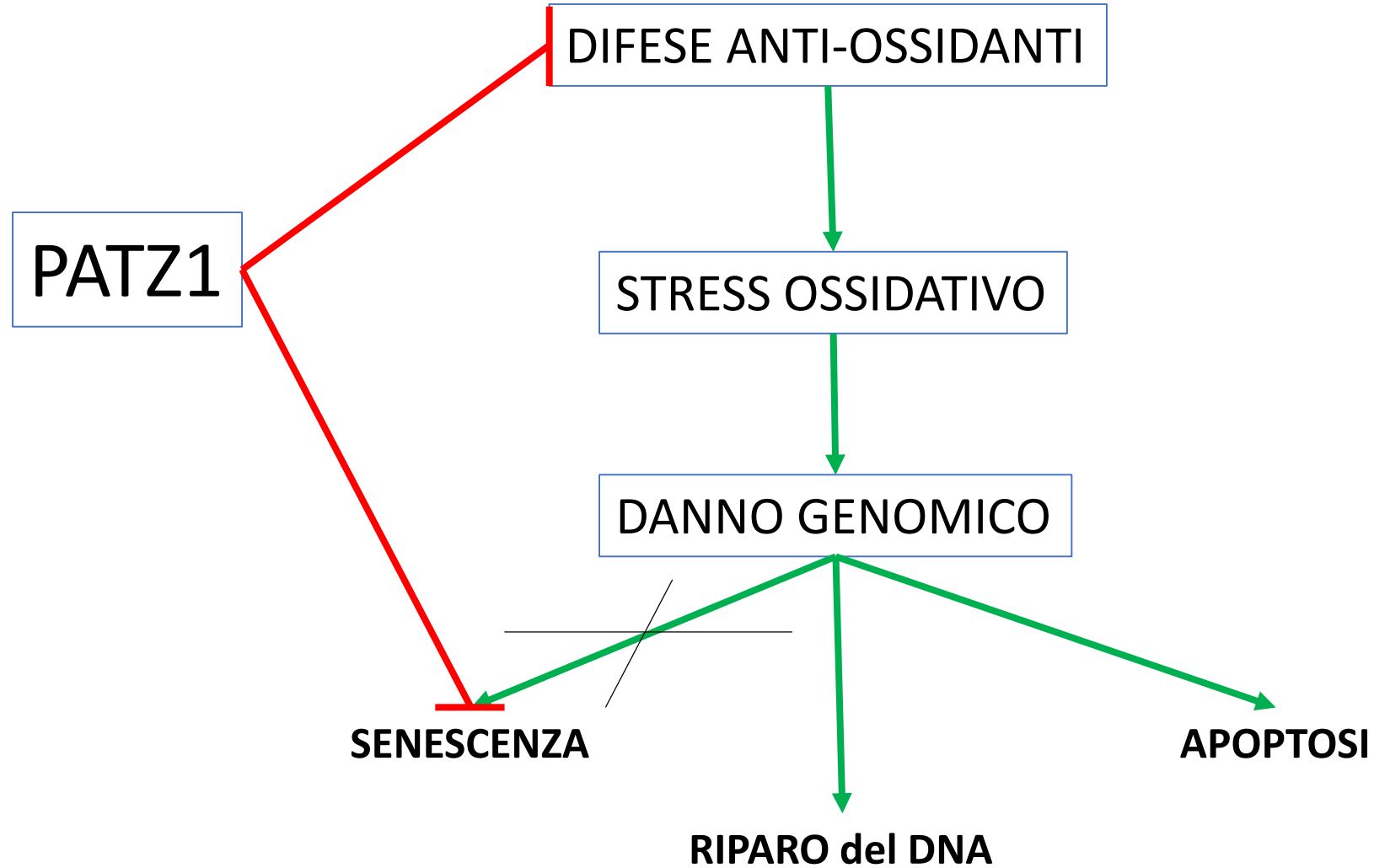
DATI PROTEOMICI SUGGERISCONO CHE PATZ1 POSSA DOWNREGOLARE L'ESPRESSIONE DI ENZIMI ANTI-OSSIDANTI



Significant	Difference	Protein names	functional annotations	Gene names
+	-4.200794	Superoxide dismutase [Cu-Zn]	anti-oxidative stress enzyme. Its inhibition causes oxidative stress	SOD1
+	-4.470479	DNA-(apurinic or pyrimidinic site) lyase, mitochondrial	enzyme that confers protection against the deleterious effects of oxidative stress	APEX1
+	-3.812471	Serine/threonine-protein phosphatase 2A	Is involved in the activation of TFEB and TFE in response to oxidative stress.	PPP2CA;PPP2CB
+	-3.632807	Cyclin-dependent kinase 1	its inhibition exacerbates H2O2-induced DNA damage	CDK1
+	-3.516061	Thioredoxin, mitochondrial	protects against oxidative stress	TXN2
+	-4.411494	Lon protease homolog, mitochondrial	crucial to mitigate cell stress. It is associated with aging	LONP1
+	-5.024522	Thioredoxin reductase 2, mitochondrial	anti-oxidant	TXNRD2
+	-4.494698	Delta(24)-sterol reductase	Its inhibition increased the levels of ROS and cleaved caspase-3 after cisplatin-induced injury.	DHCR24
+	-4.968065	Glucose-6-phosphate 1-dehydrogenase	protects against oxidative stress and its deficiency increases oxidative stress.	G6PD
+	-3.77763	Glutathione S-transferase P	anti-oxidant enzyme. Its inhibition causes oxidative stress	GSTP1
+	-2.932226	Peroxisredoxin-2	protects against oxidative stress. Its inhibition led to increased ROS levels following a stress	PRDX2
+	-2.363385	Thioredoxin-dependent peroxide reductase, mitochondrial	anti-oxidant. Its knockdown in cancer cells enhanced apoptosis and inhibits proliferation and migration	PRDX3
+	-3.049637	Peroxisredoxin-6	antioxidant enzyme that protects cells from oxidative stress.	PRDX6
+	-2.580693	Pyrraline-5-carboxylate reductase 1, mitochondrial	protects against oxidative stress	PYCR1
+	-3.746475	Pyrraline-5-carboxylate reductase 2	protects against oxidative stress	PYCR2
+	-3.212706	Heat shock protein 75 kDa, mitochondrial	protects against oxidative stress	TRAP1
+	-4.110511	Aladin	nuclear pore complex protein. Increases following oxidative stress	AAAS
+	-2.424363	Heme oxygenase 2	Heme-oxygenases (HMOX) are an important defensive mechanism against oxidative stress	HMOX2

SAGGI BIOCHIMICI E ANALISI METABOLOMICHE CONFERMANO L'ABBASSAMENTO DELLE DIFESE ANTI- OSSIDANTI NELLE CELLULE IPERESPRIMENTI PATZ1

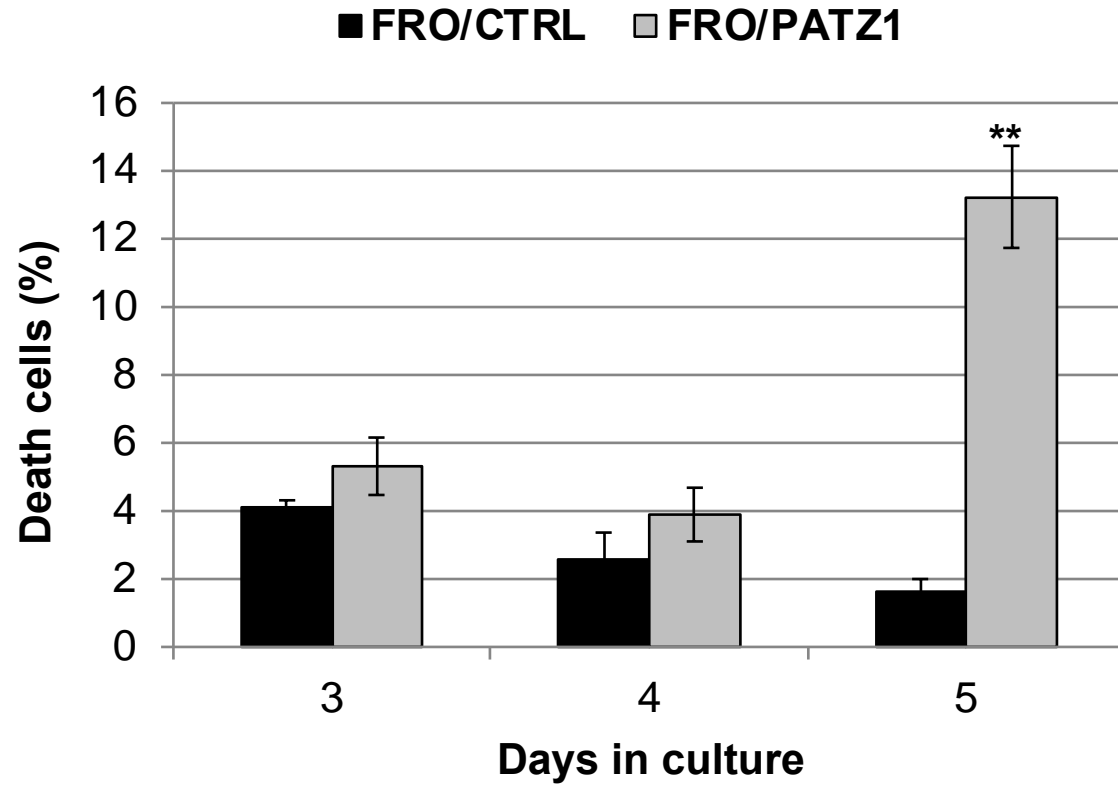




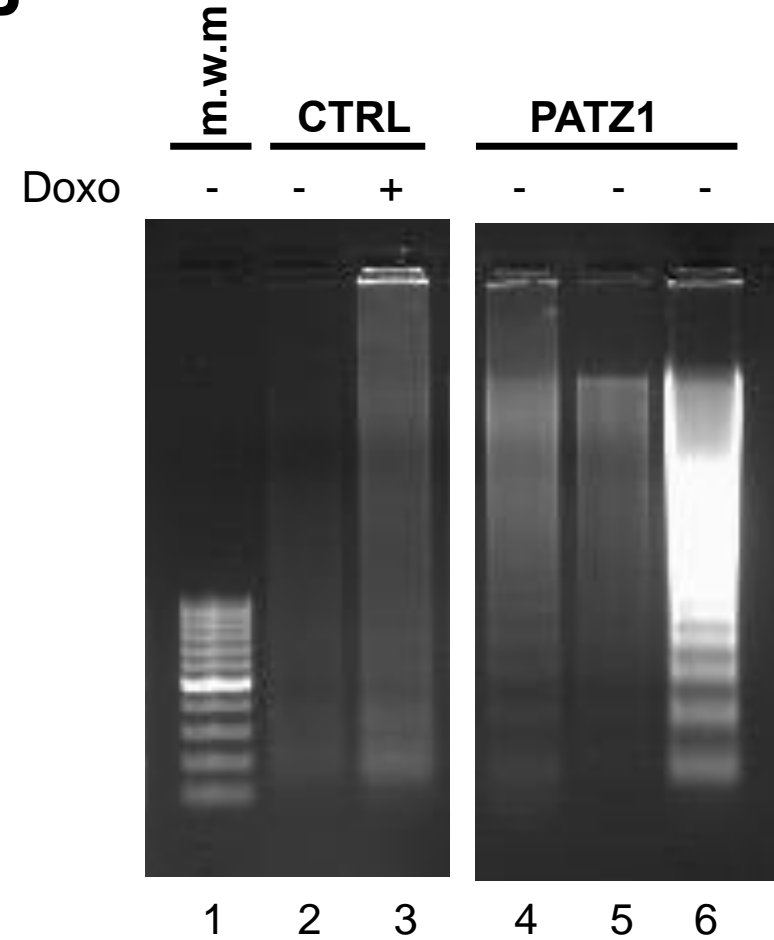
LE CELLULE IPERESPRESSANTI PATZ1 VANNO INCONTRO A MORTE APOPTOTICA



A



B



Nelle cellule FRO, PATZ1 sopprime sia la senescenza che i meccanismi anti-ossidanti risultando nell'induzione di apoptosi.

- PATZ1 è in grado di sensibilizzare le cellule tumorali a uno stress ossidativo indotto rendendole più vulnerabili alla morte?
- PATZ1 è coinvolto anche nell'induzione della ferroptosi?
- Qual è il meccanismo coinvolto?
- Questo ruolo si estende anche alle cellule non tumorali?

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GRAZIE!