

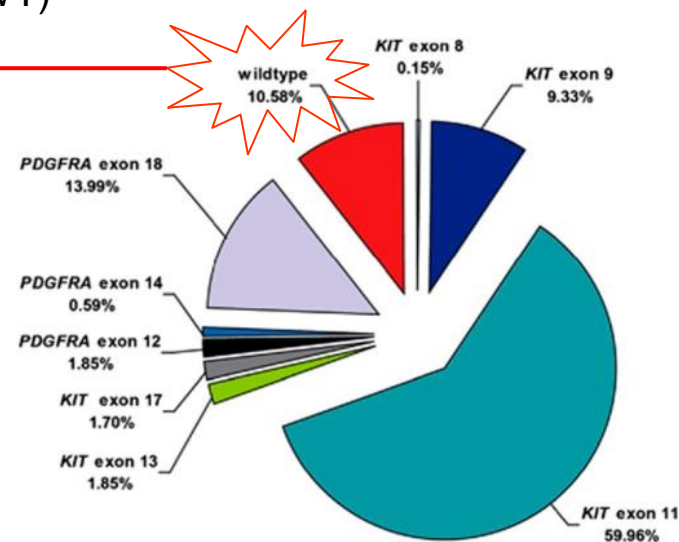
POTENZIALE ANTI-TUMORALE DI ESTRATTI DI
ARBUTUS UNEDO e *ABUTILON THEOPHRASTI MEDICUS*
IN UN MODELLO CELLULARE DI TUMORE STROMALE
GASTROINTESTINALE (GIST)

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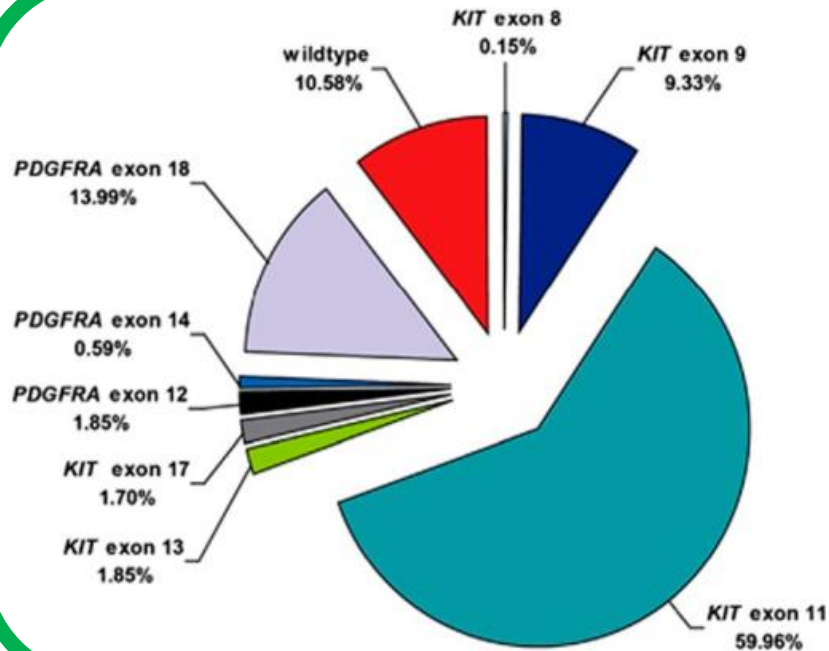
I TUMORI STROMALI GASTROINTESTINALI (GIST)

- Il più comune tumore mesenchimale del tratto GI;
- Sarcoma raro caratterizzato da:
 - 85-90%: mutazioni in **KIT** and **PDGFRA**
 - ~10%: no mutazioni di KIT/PDGFR → wild type GIST (WT)

WT-GIST: Gruppo eterogeneo
SHD deficiency
BRAF
RAS
Quadrupli WT



FAMIGLIA ETEROGENEA → OMOGENEITÀ di TRATTAMENTO ←



Prima linea - 2000



Seconda linea - 2006



Terza linea - 2013



Quarta linea - 2020



PDGFRA esone 18 - 2020



SCOPO: SCREENING di ESTRATTI di ORIGINE NATURALE

Abutilon theophrasti (ATH)

- Infestante stagionale
- Medicina tradizionale cinese
- Pianta infestante (economia circolare)

[Hassan, M. et al. (2021), Springer
International Publishing]

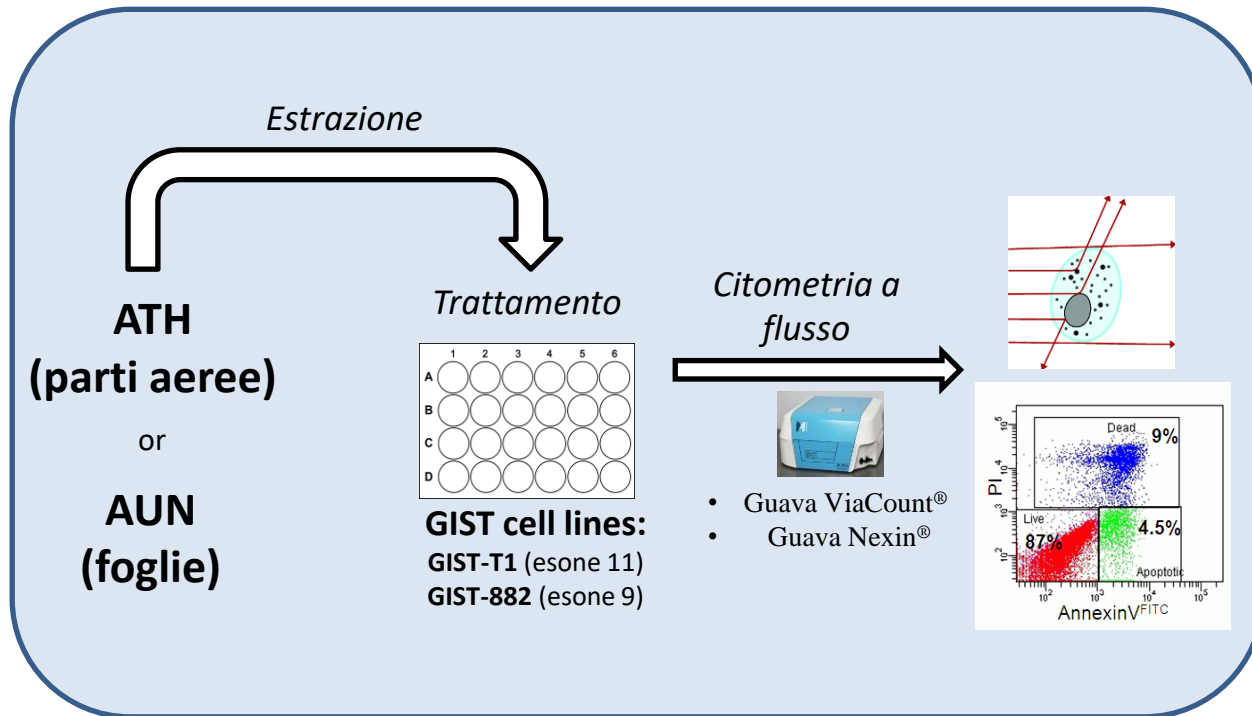


[Morgado, S. et al. (2018), Journal
of Ethnopharmacology]

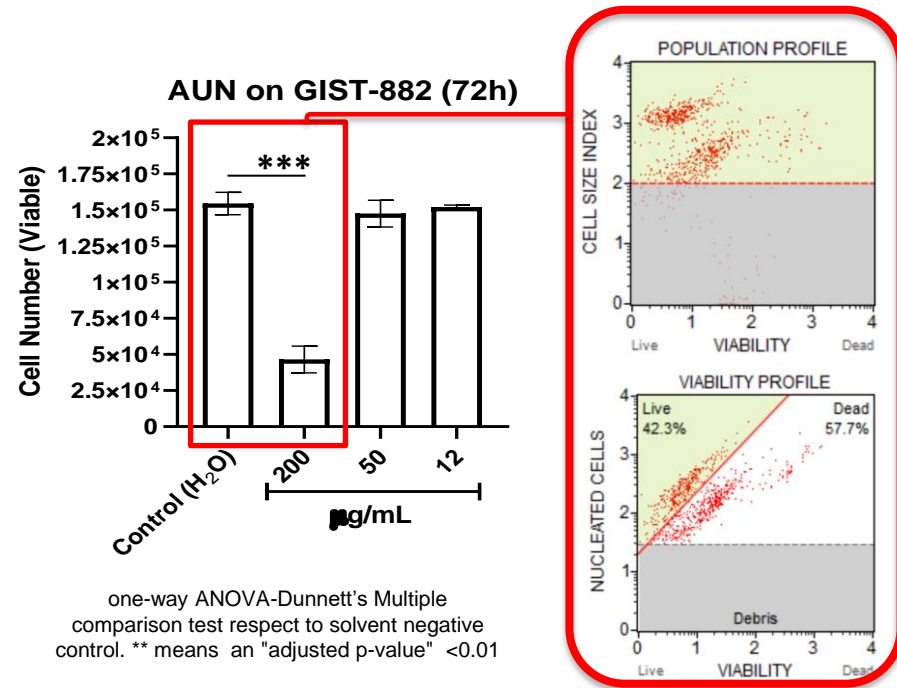
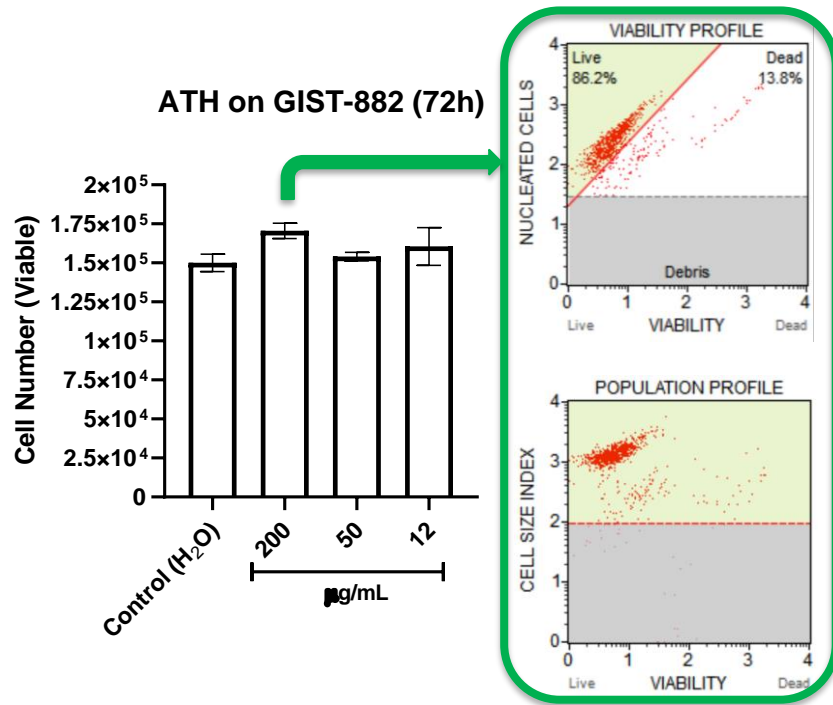
Arbutus unedo (AUN)

- Albero annuale del bacino mediterraneo
- Resistente a condizioni atmosferiche avverse
- Medicina tradizionale e dieta mediterranea
- Attività antitumorale *in vitro*
- Nessuna citotossicità su cellule HUVEC

WORKFLOW SPERIMENTALE



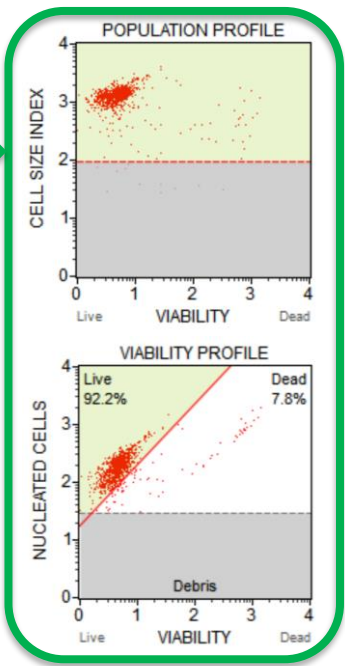
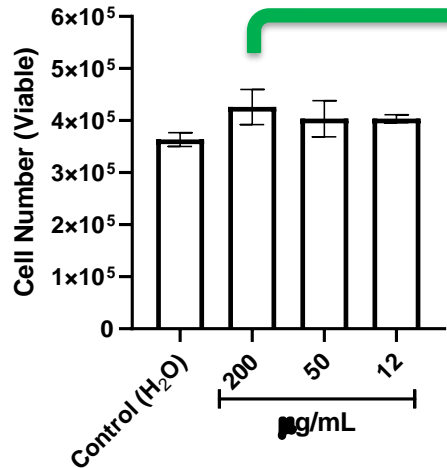
TRATTAMENTO CON ATH & AUN e VITALITÀ CELLULARE nelle GIST-882



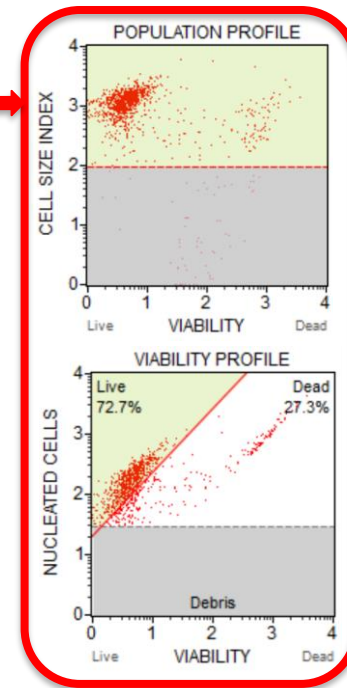
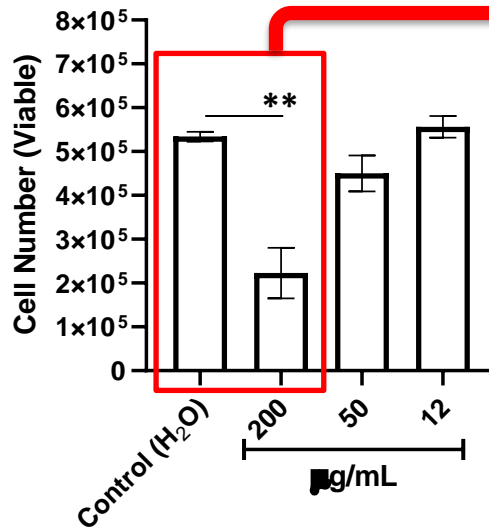


TRATTAMENTO CON ATH & AUN e VITALITÀ CELLULARE nelle GIST-T1

ATH on GIST-T1 (72h)



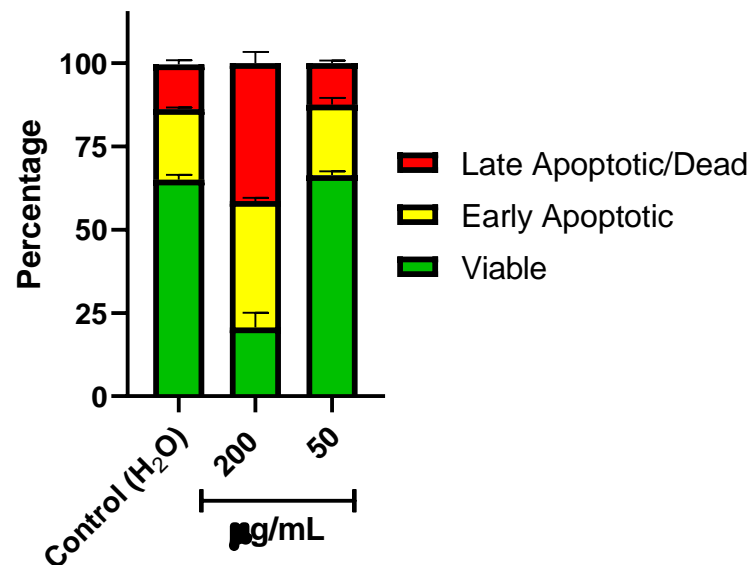
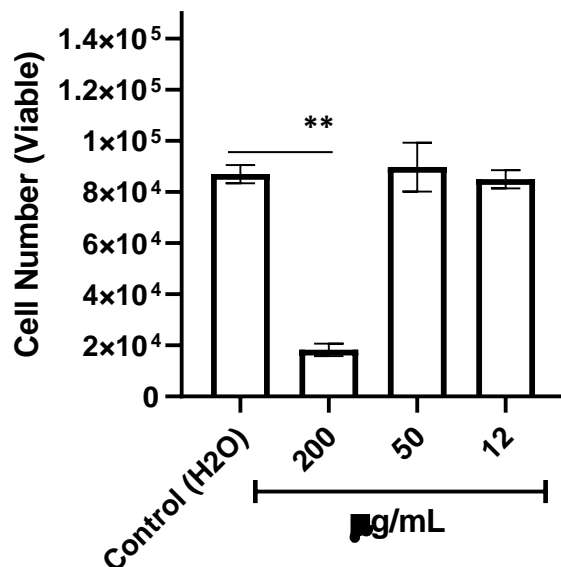
AUN on GIST-T1 (72h)



one-way ANOVA-Dunnett's Multiple comparison test respect to solvent negative control. ** means an "adjusted p-value" <0.01

AUN INDUCE MORTE CELLULARE nelle GIST-882

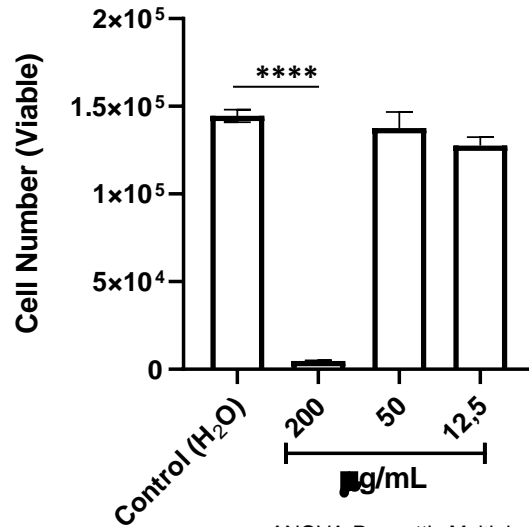
AUN on GIST-882 (24h)



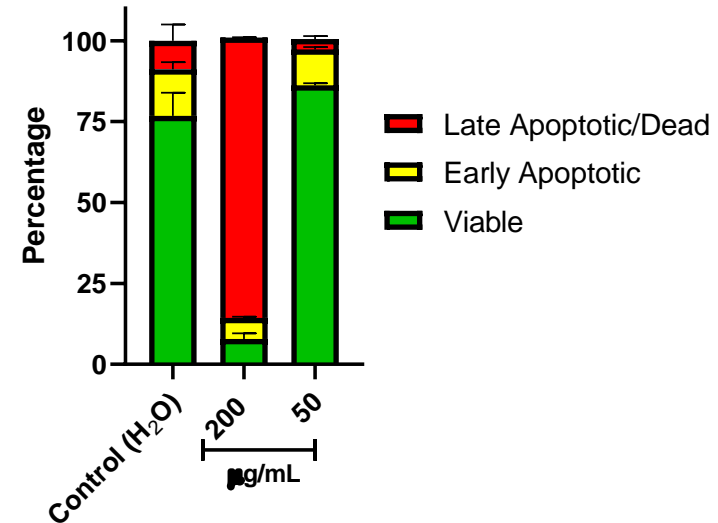
one-way ANOVA-Dunnnett's Multiple comparison test respect to solvent negative control. ** means an "adjusted p-value" <0.01

AUN INDUCE MORTE CELLULARE nelle GIST-T1

AUN on GIST-T1 (24h)



one-way ANOVA-Dunnett's Multiple comparison test respect to solvent negative control. **** means an "adjusted p-value" <0.0001



CONCLUSIONI

- ✓ ***Arbutus unedo*** - AUN → riduce significativamente la vitalità cellulare;
- ✓ ATH → nessun effetto significativo su GIST-882 & GIST-T1;
- ✓ Effetto di AUN → apoptosi

Next step?



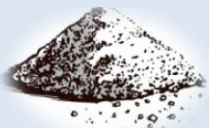
QUALI SONO i PRINCIPI ATTIVI?

harvesting:

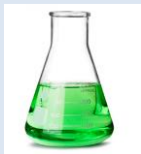
AUN
foglie



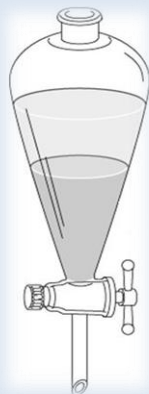
grinding:



extraction:



AUN Liquid/liquid partition:



➤ FR1= CHCl_3

➤ FR2= EtOAc

➤ FR3= H_2O

Trattamento

	1	2	3	4	5	6
A						
B						
C						
D						

GIST cell lines:

GIST-T1 (esone 11)

GIST-882 (esone 9)

Citometria a
flusso



- Guava ViaCount®
- Guava Nexin®

