

***Metabolic Profile of
Inflammatory Breast
Cancer: aiding diagnosis
and treatment***

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Metabolic Profiling in simple terms.

Ingredients : 3 egg yolks / 25 cl [1 cup - 8.5 fl oz] milk / 25 cl [1 cup - 8.5 fl oz] simple cream (light cream) / 1 vanilla bean / 50 gr [1.75 oz] sugar / 60 gr [2 oz] brown sugar.

- In a salad bowl, put the egg yolks and mix them with a whisk.
- Add the sugar to the yolks and mix until the mixture gets clearer. Add the cream, then the milk, and leave for 30 minutes.

Pre-heat oven at 160°C | 310°F and put 1 cm (1/2 in.) high water in the oven baking tray.

Bake for about 10 minutes ; the cream must get thicker but stay soft ; it must not get too brown.

- When baked, let them get cooler, then put in fridge for at least 1 hour.

Last step, the "burning" (sugar crust on top), just before serving:

- Pre-heat oven on grill position ; evenly spread the brown sugar on the 4 creams then put under grill for just a few minutes (3 to 5, it is quick) ; the sugar will melt and get caramelized, don't let it burn!

Serve right away (hot on top, cold inside).

In the making



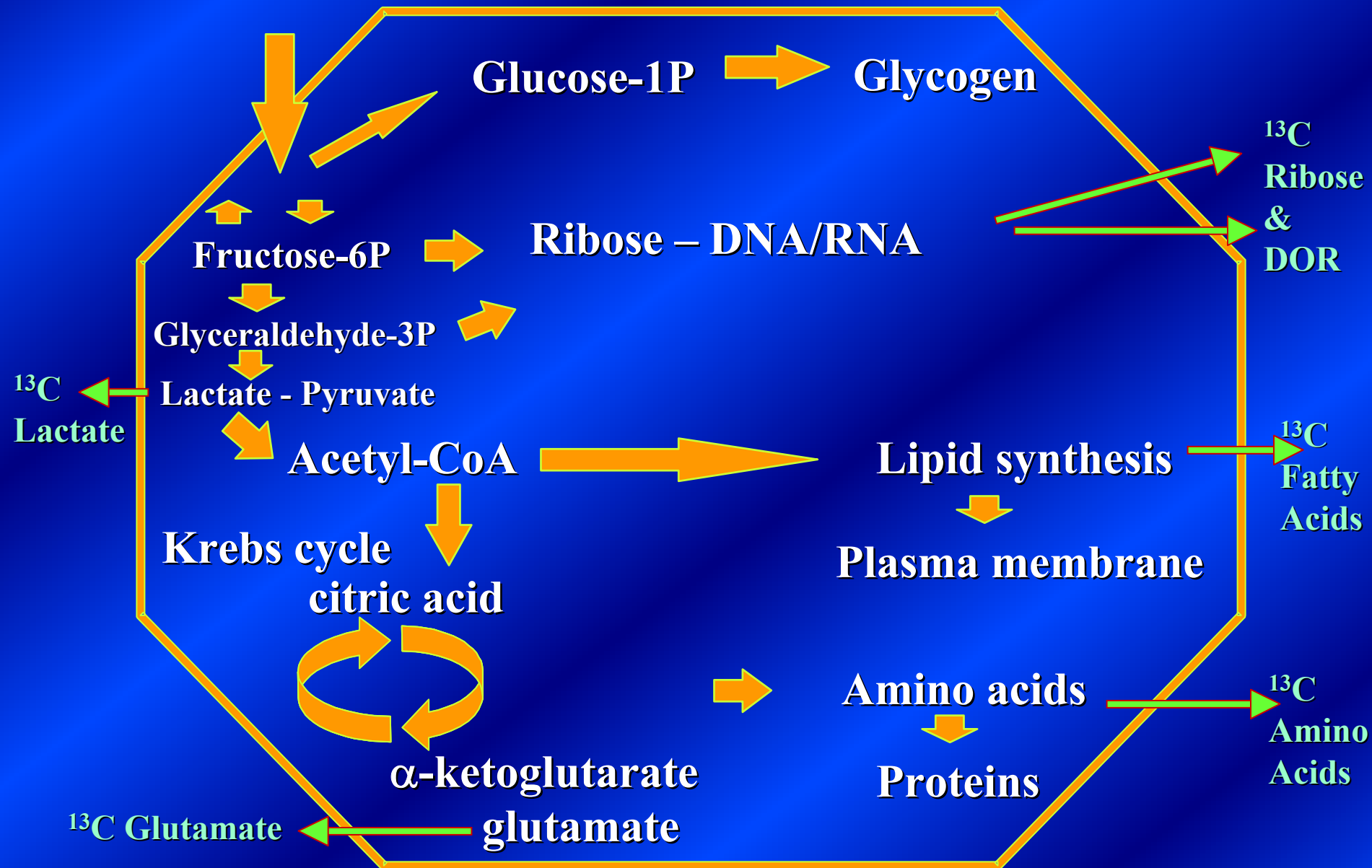
Crème Brulée

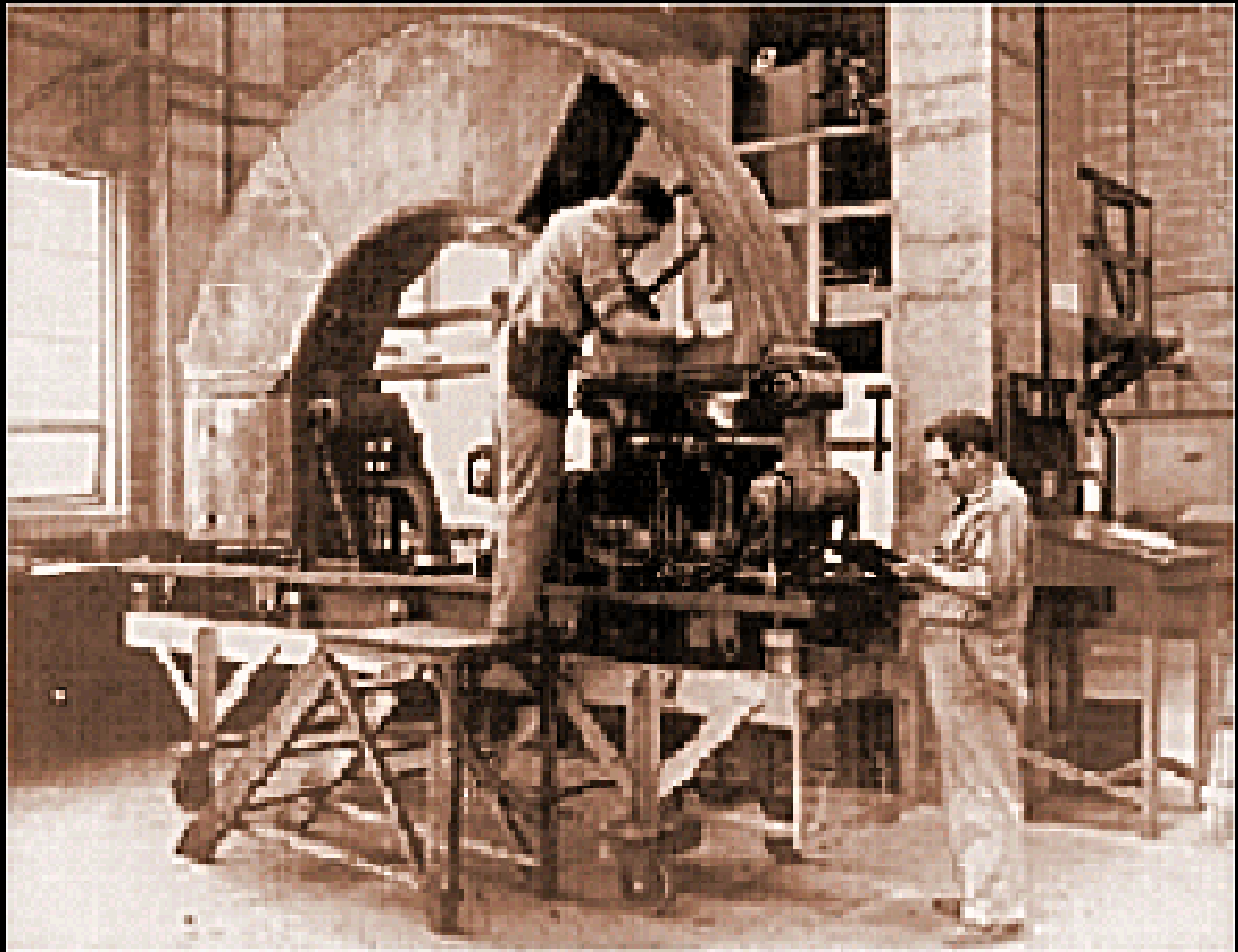
Tracer

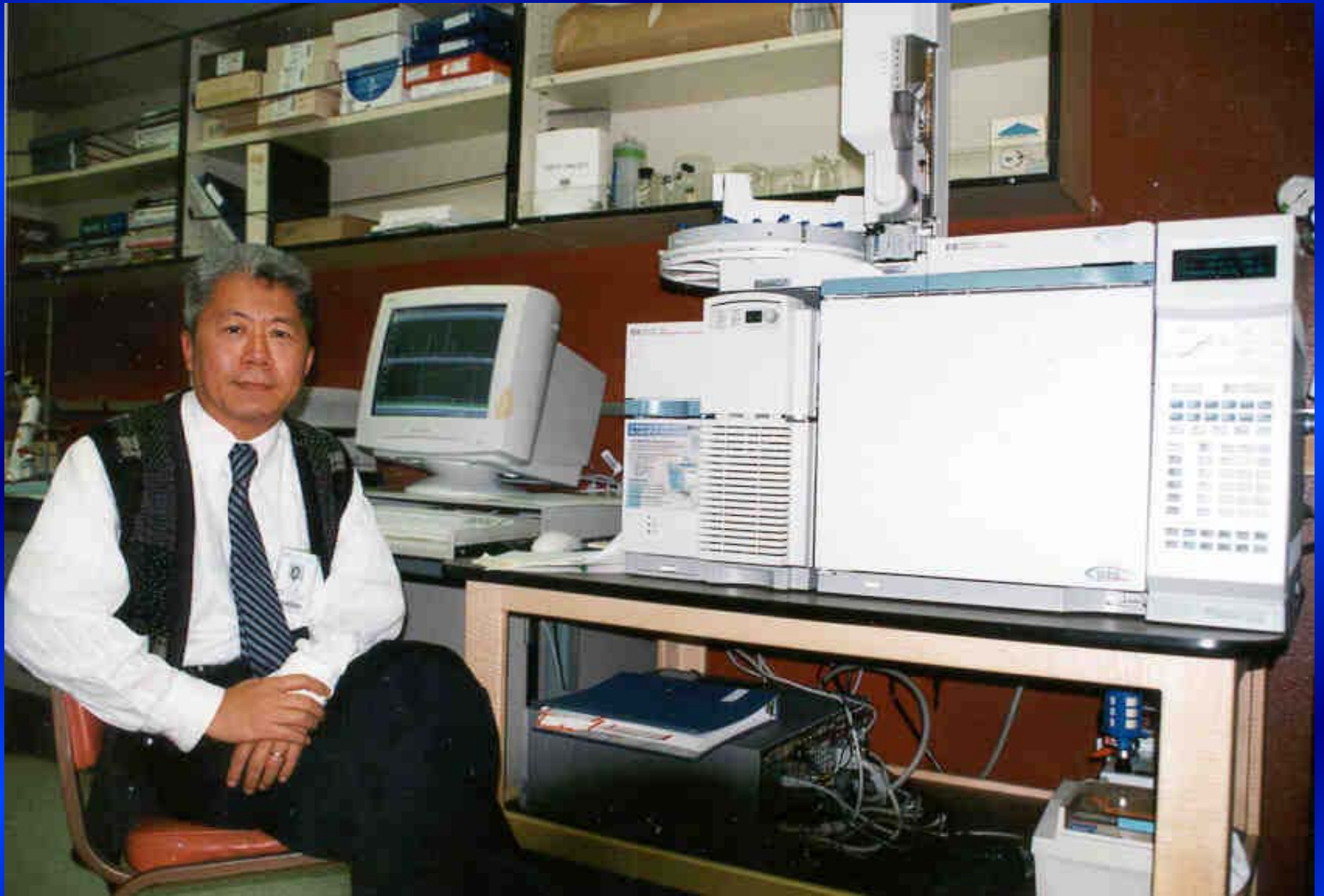


[1,2-¹³C₂]glucose tracer

Tumor cell

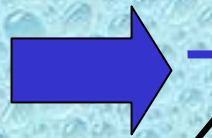
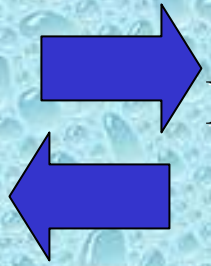
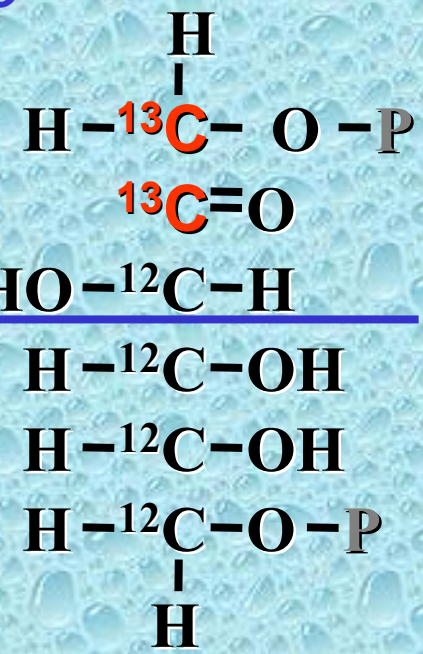
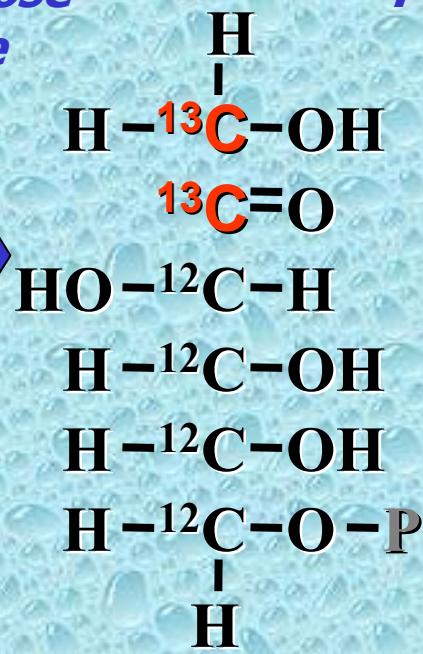
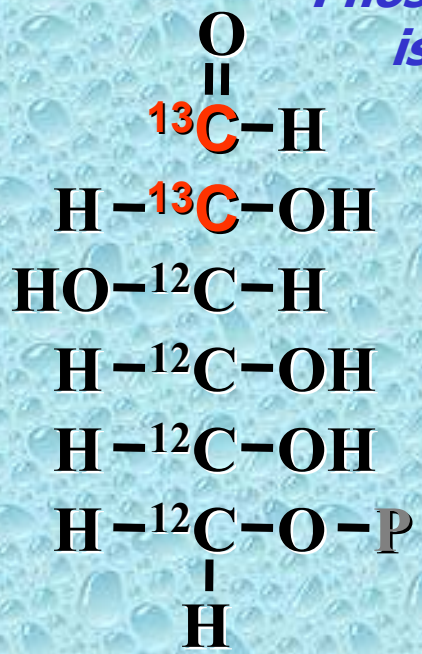






*Phosphoglucose
isomerase*

*Phosphofructo
kinase*

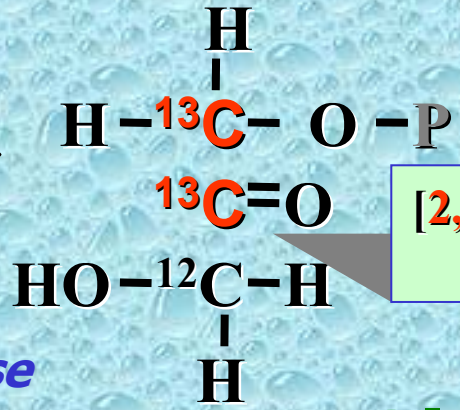
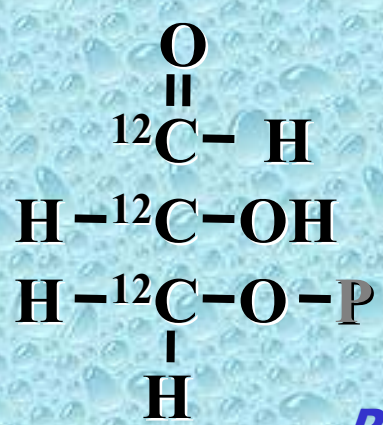
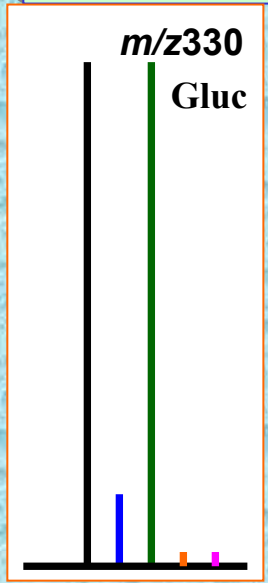


Aldolase

[1,2-¹³C]glucose -6P

[1,2-¹³C]fructose-6-P

[1,2-¹³C]fructose-1,6-bisP

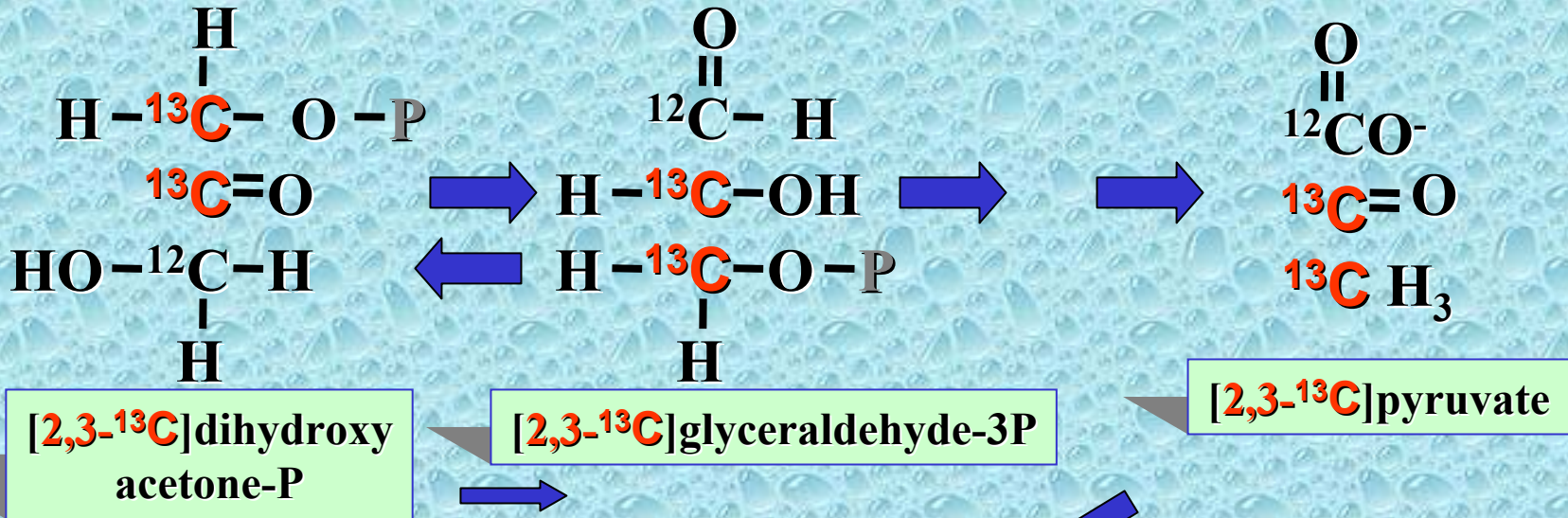


[2,3-¹³C]dihydroxy
acetone-P

*Triose
Phosphate
Isomerase*

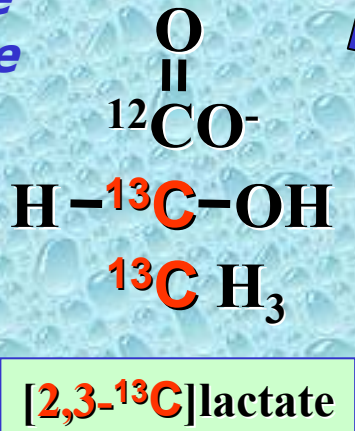
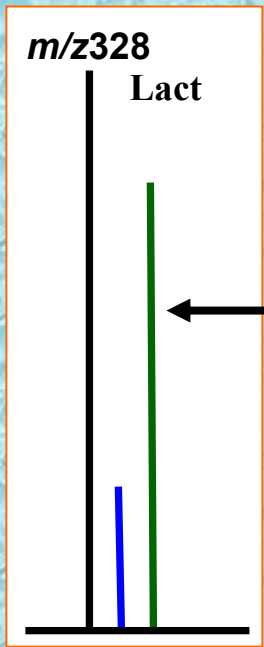
glyceraldehyde-3P

Glycolysis



Triose Phosphate Isomerase

Lactate dehydrogenase



RELEASED INTO CULTURE MEDIUM

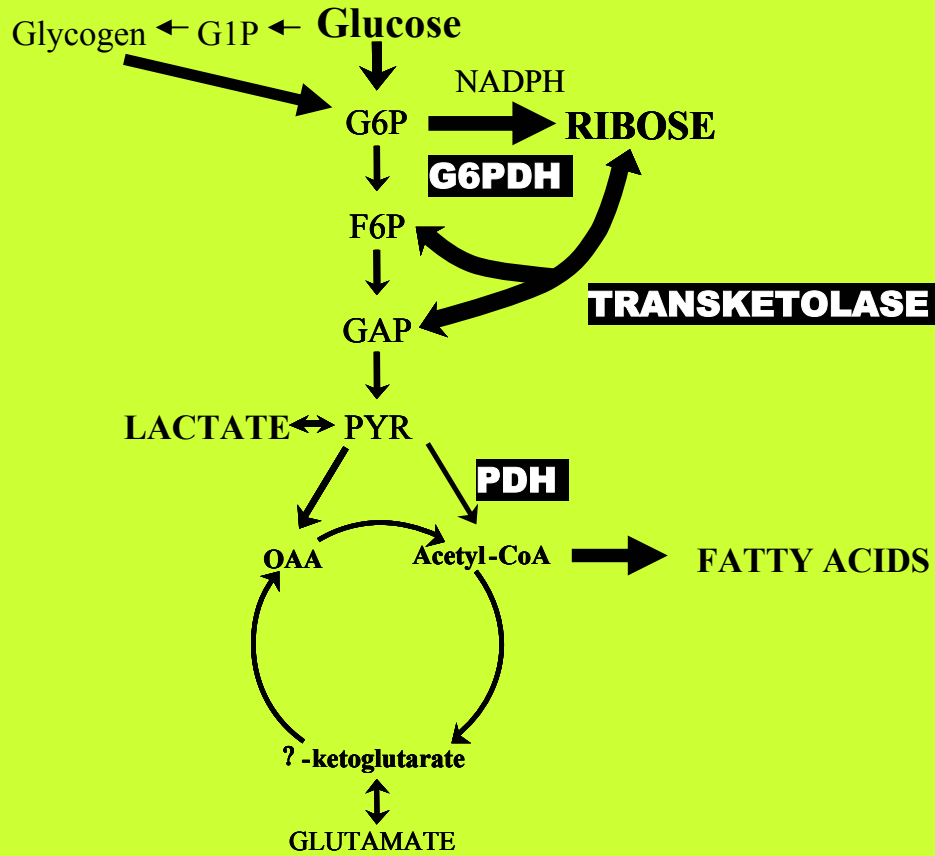
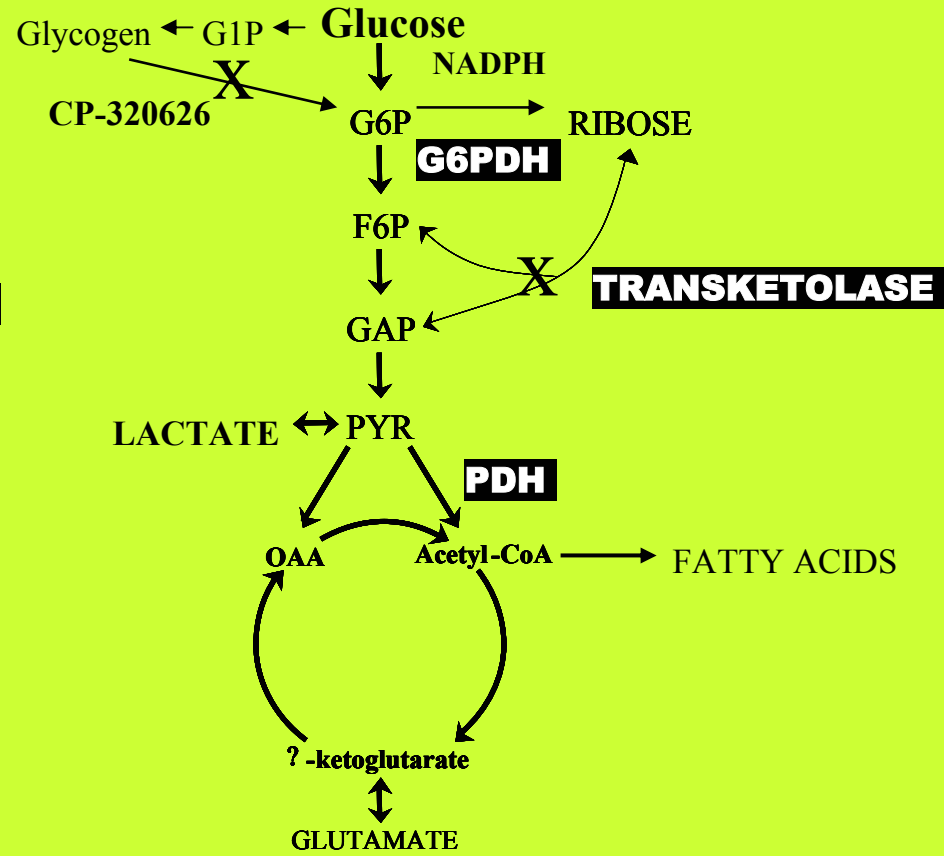
Glycolysis

DRUG TREATMENTS

AVEMAR

**GLYCOGEN PHOSPHORYLASE
INHIBITOR**

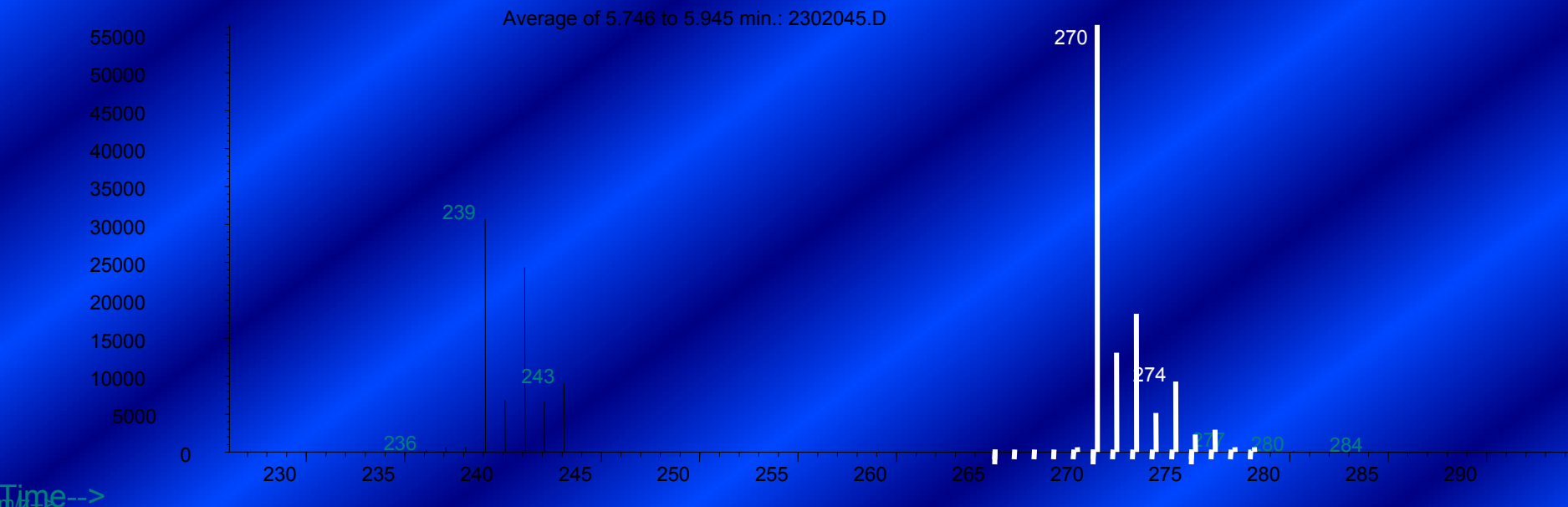
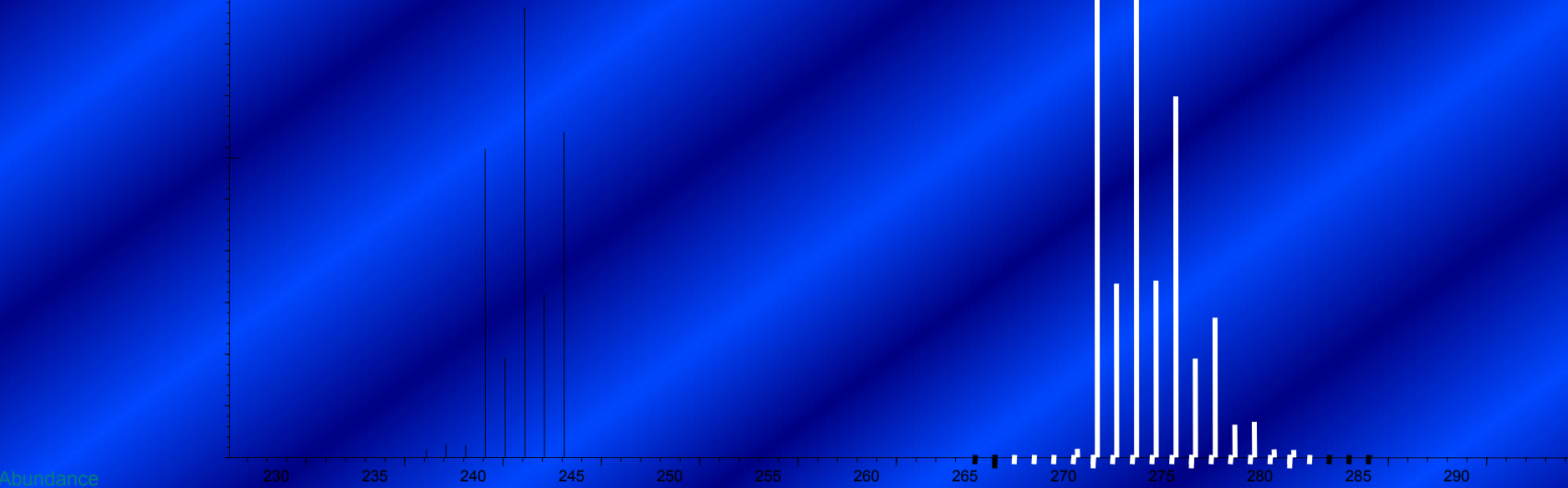
2-DEOXY-D GLUCOSE

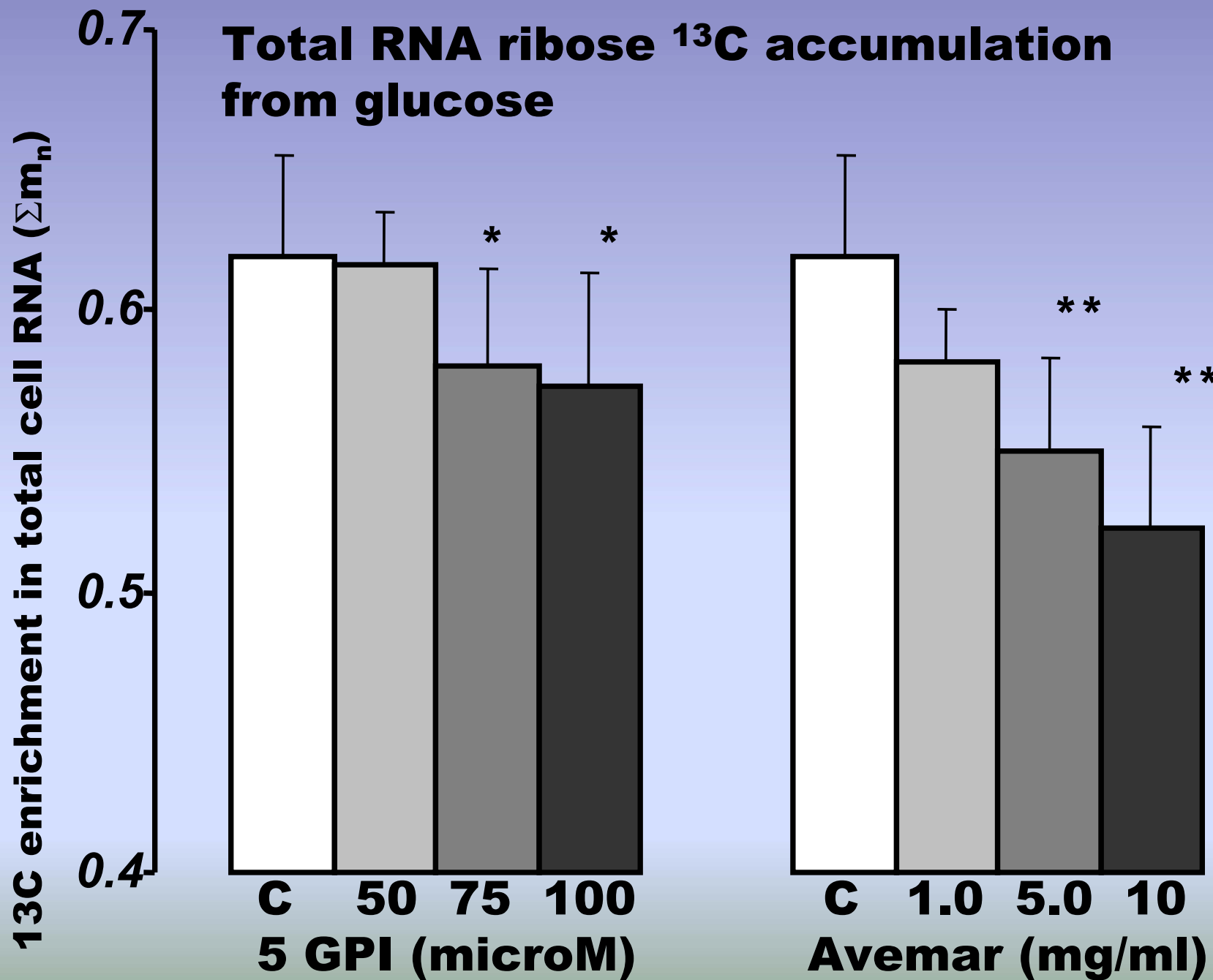
A**UNTREATED IBC CELLS****B****CPD TREATED IBC CELLS**

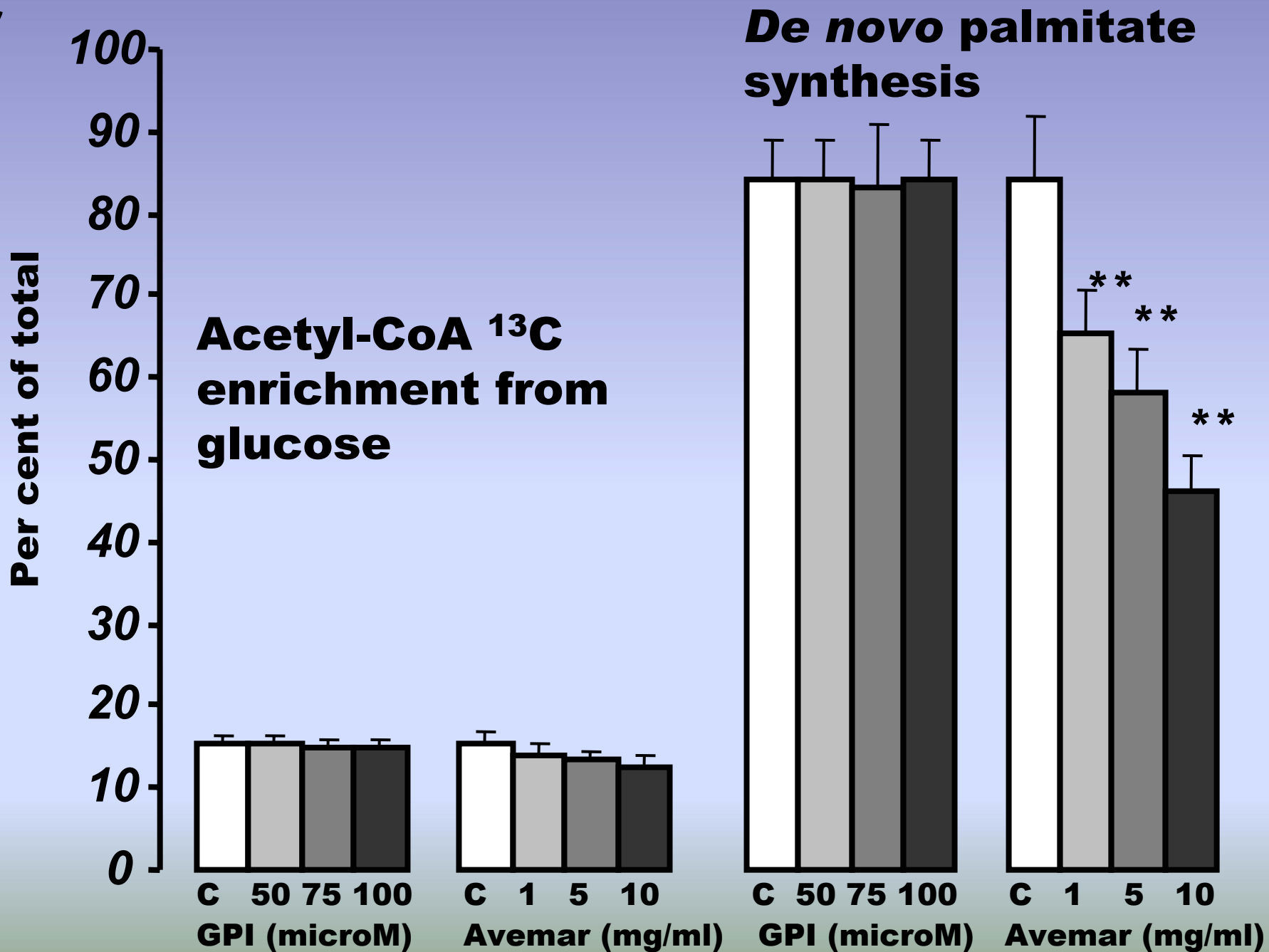
Apoptosis / IBC cell death



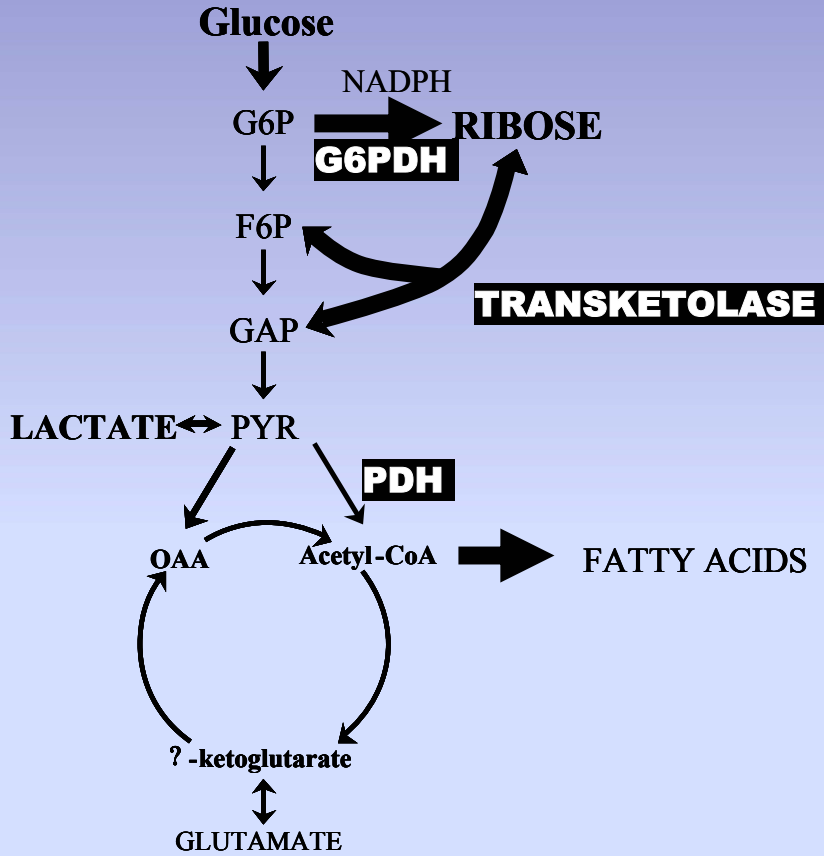
Effect of 10 mg/ml Avemar (24h) on *de novo* fatty acid synthesis



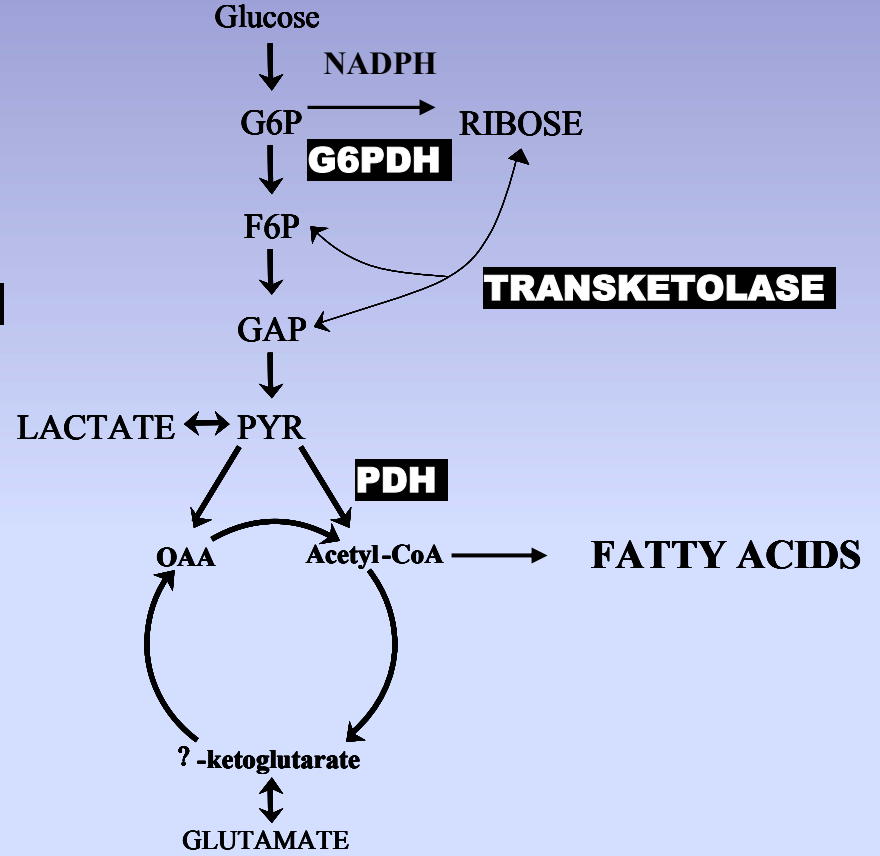
B**Total RNA ribose ^{13}C accumulation from glucose**

C

Control IBC cells



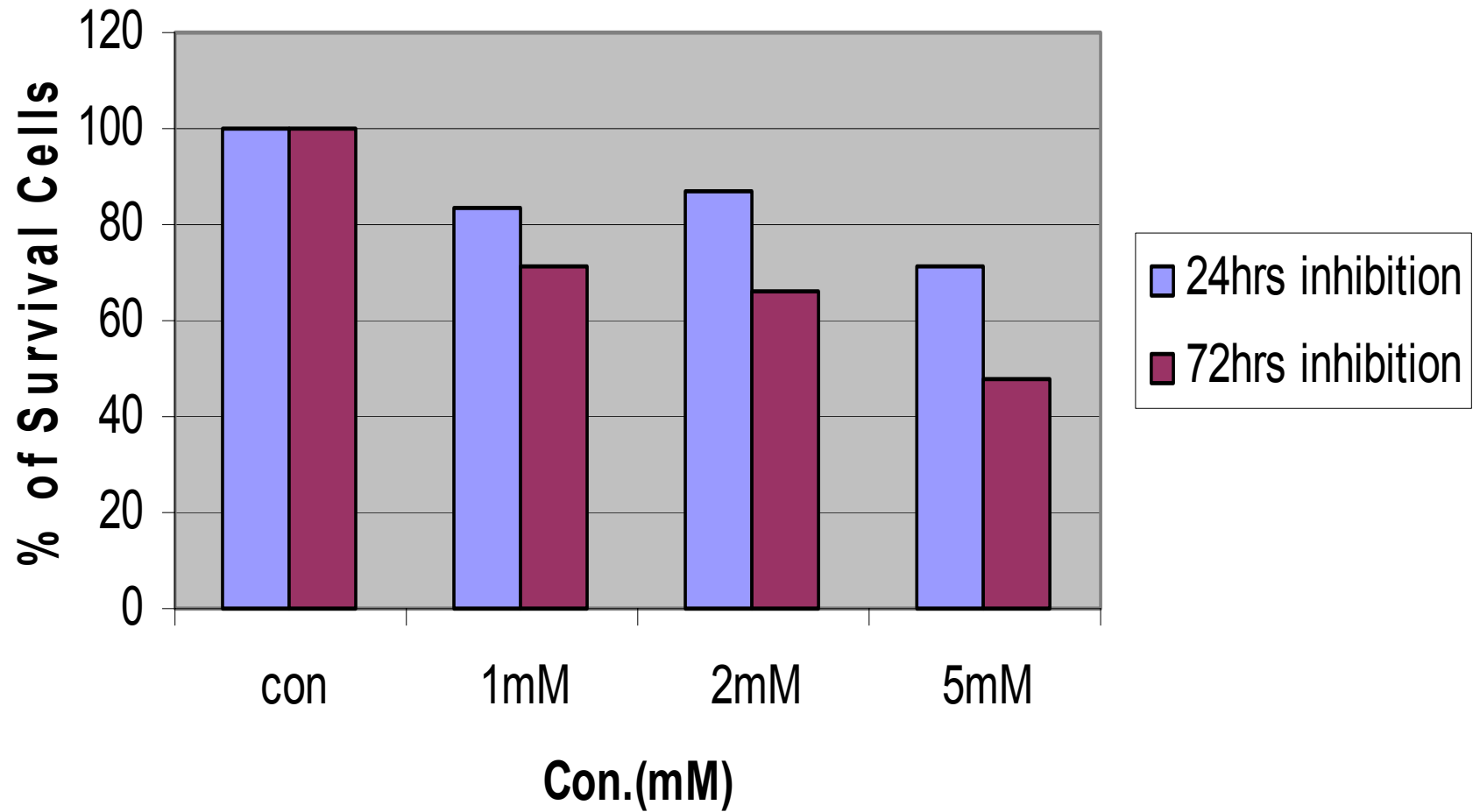
Avemar treated IBC cells



Decreased proliferation



Deoxyglucose Inhibition On IBC



STUDY RESULT SUMMARY

- ***IBC cells have a very unique metabolic profile.***
- ***They are sensitive to DOG and Avemar treatment***

AGENDA

- ***DIAGNOSTIC TEST BASED ON METABOLIC PROFILE AND TRACER TECHNIQUE***
- ***NEW TREATMENT TARGETING UNIQUE METABOLIC ENZYMES***

THANKS TO

- ***IBC RESEARCH FOUNDATION***
- ***HARBOR UCLA RESEARCH FACILITIES***