

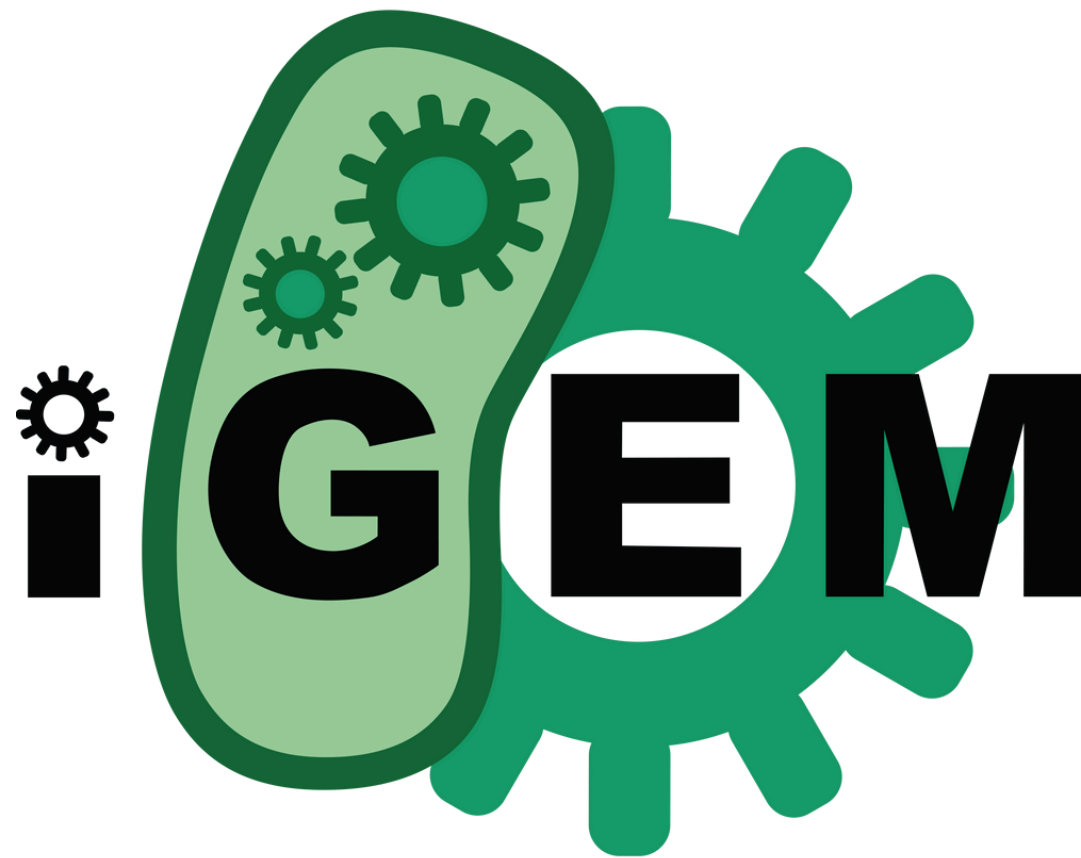


# HEPASW TCH

## iGEM 2025

**SWITCH** on a new era of HCC therapy

# ABOUT THE EVENT



iGEM (International Genetically Engineered Machine) is the world's largest international synthetic biology competition, where student teams from around the globe develop solutions to key challenges facing humanity in areas such as healthcare, environmental protection, and new technologies.

We are the first team from Warsaw in a decade and the fourth team in Poland's history to participate in this prestigious competition. Our interdisciplinary team, consisting of students in biotechnology, bioinformatics, and medicine, possesses a wide range of competencies that enable us to pursue ambitious goals in the field of oncology.

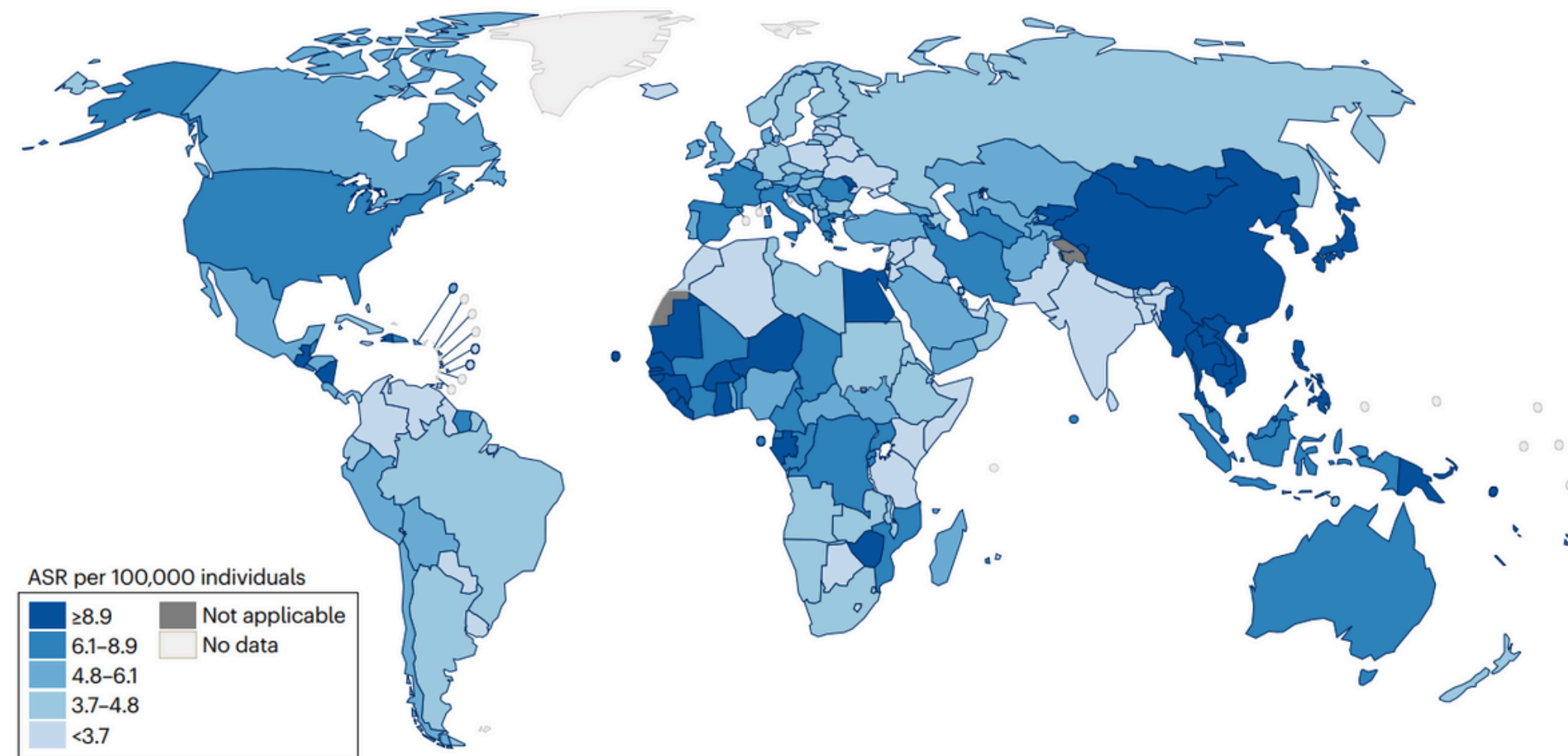
# HEPATOCELLULAR CARCINOMA

is responsible for **90%** of liver cancers

 **905,700** people were **diagnosed** with liver cancer in 2020.

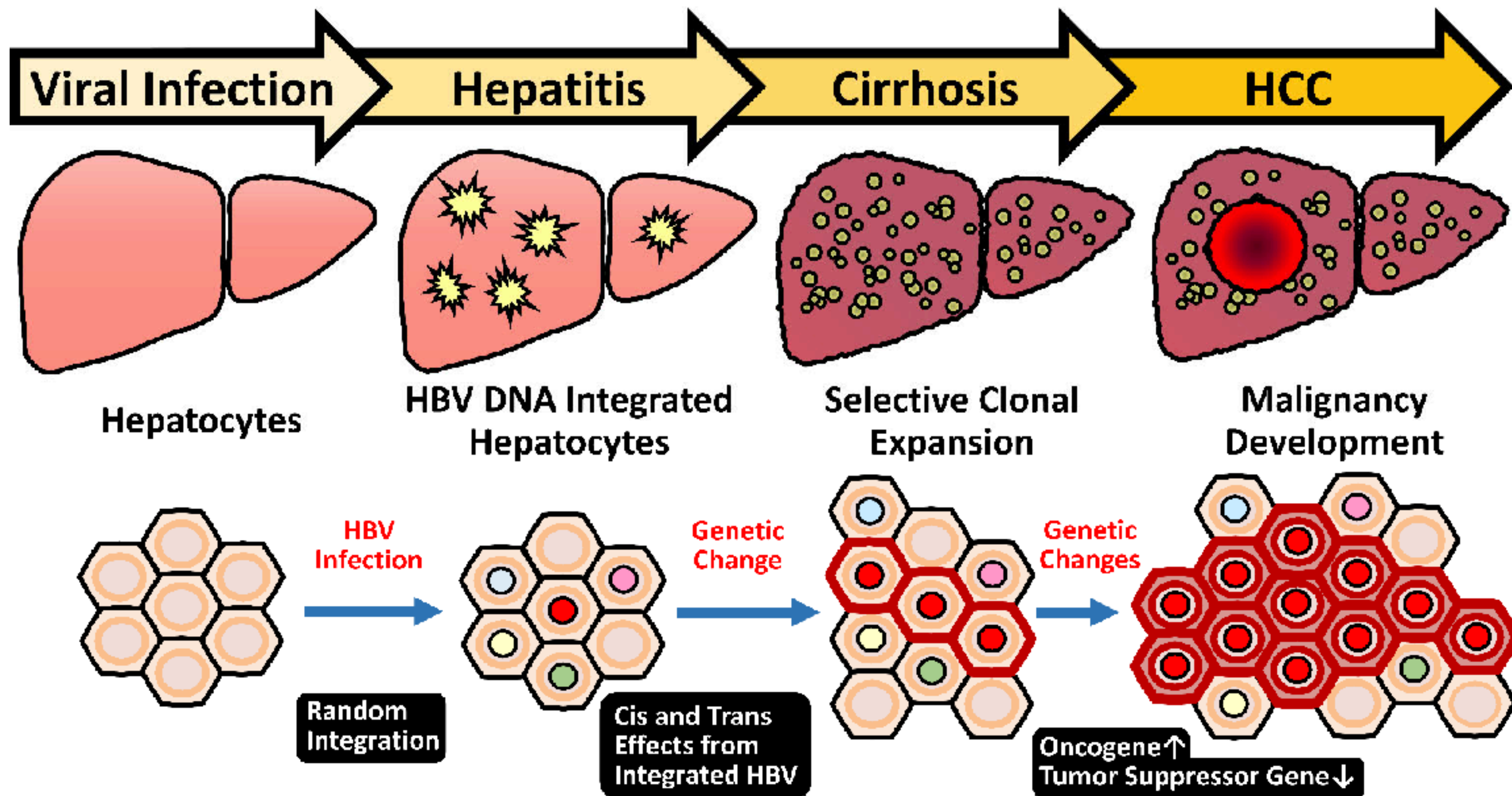
 **830,200** people **died** from liver cancer in 2020.

Liver cancer ranked among the **top 3** causes of **cancer-related deaths** in **46 countries**



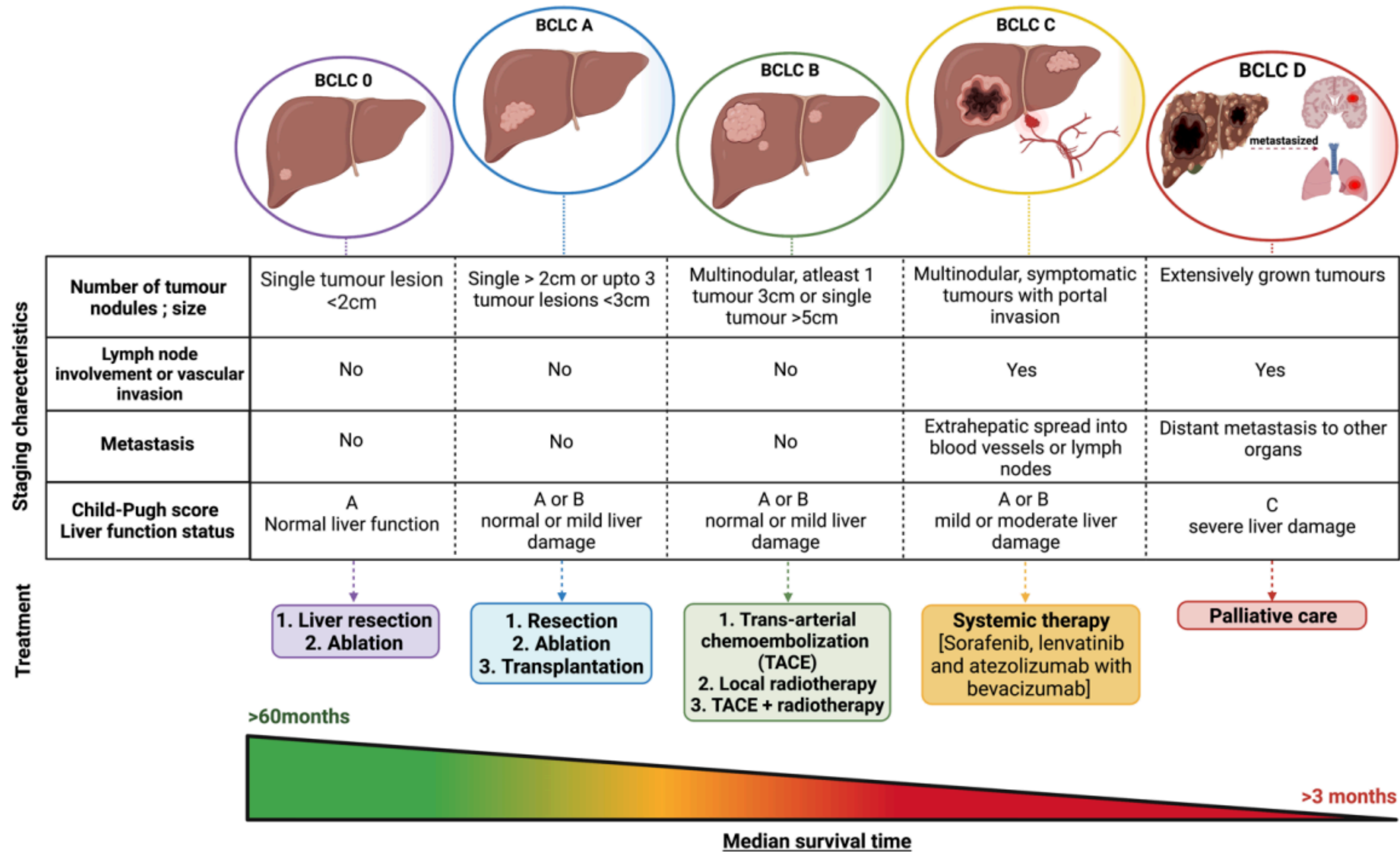


# WHAT IS HCC?





# HCC TREATMENT

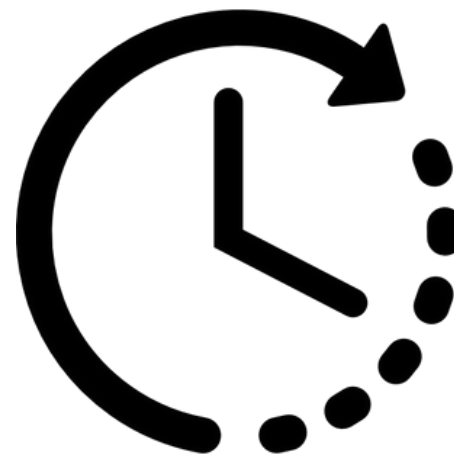


# PROBLEM



**40-60%**

of patients with HCC are diagnosed at an advanced stage (BCLC C/D).



Short progression free survival:

**6.8 months HCC**

vs. **6-8 months** (glioblastoma G4)



The number of people diagnosed with or dying from liver cancer globally could

**↑ more than 55%**

between 2020 and 2040 if current rates do not change.

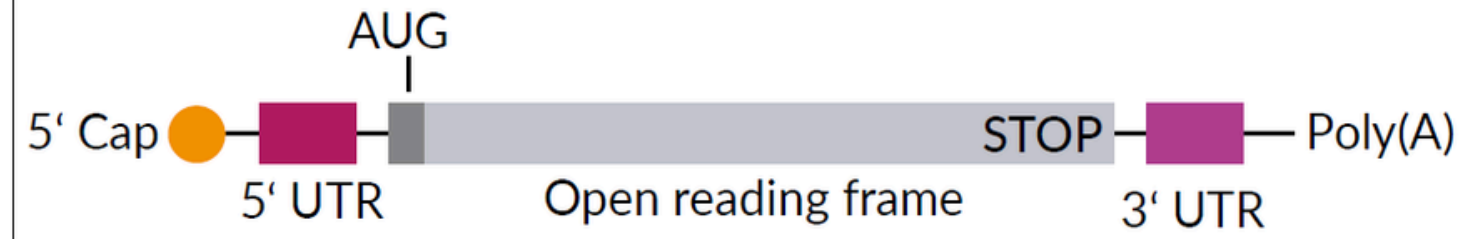
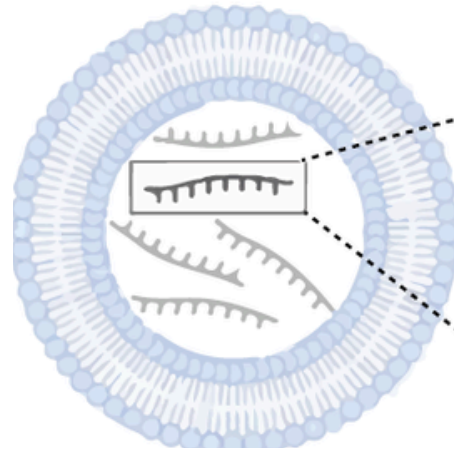


The conclusion is simple:

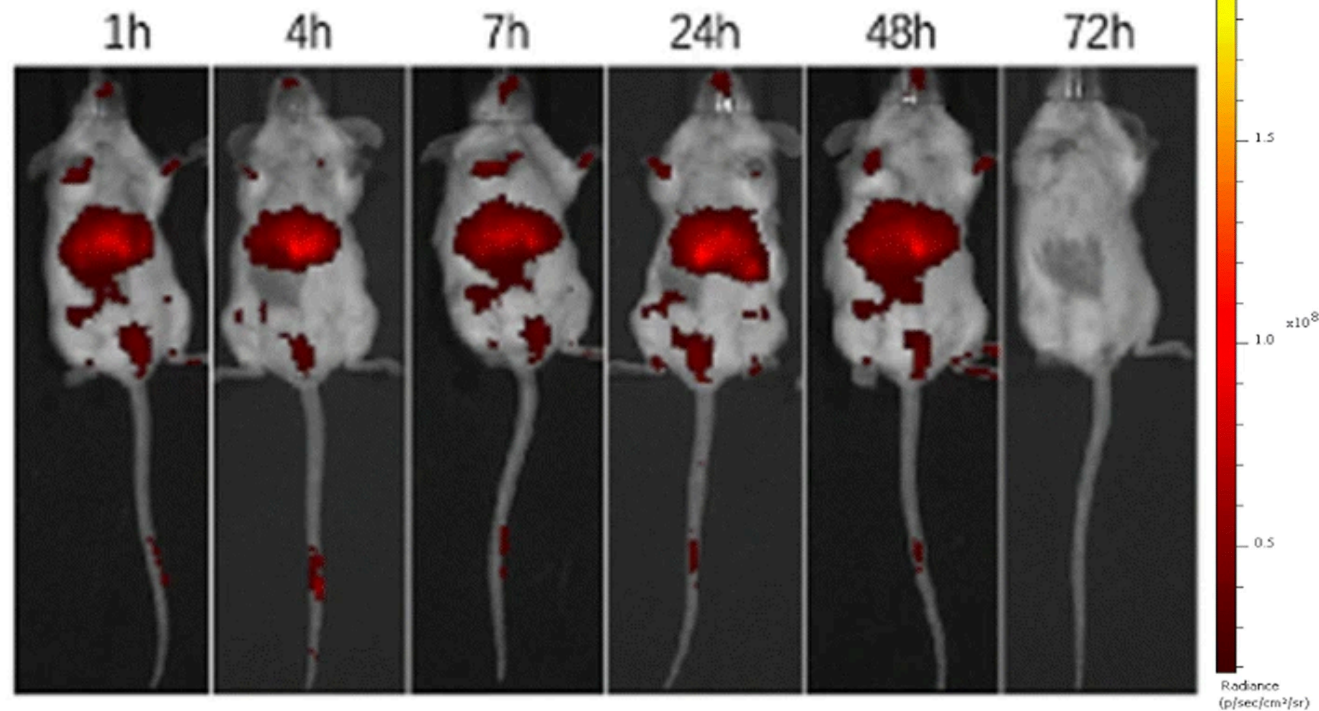
**WE NEED A NEW APPROACH TO  
TREATING HEPATOCELLULAR  
CARCINOMA.**



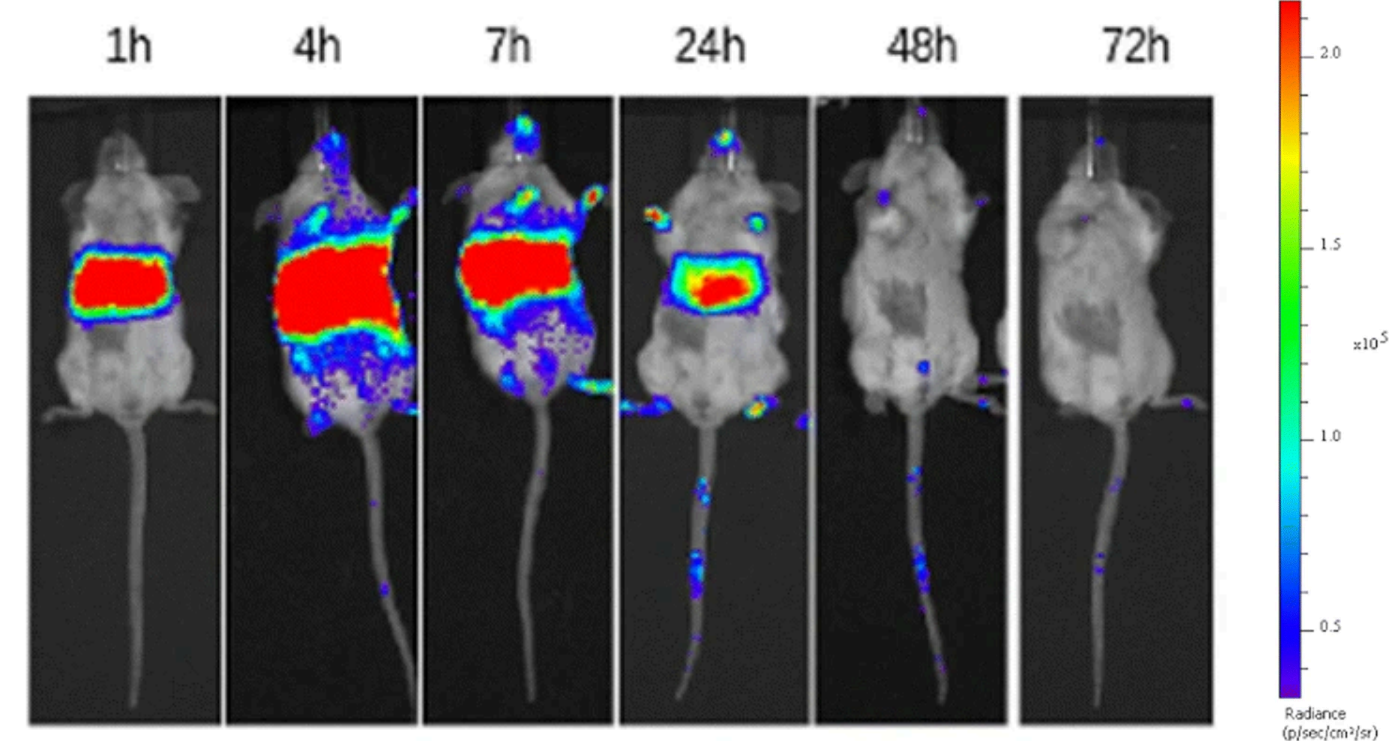
# mRNA



## LNP distribution



## Fluc-mRNA expression

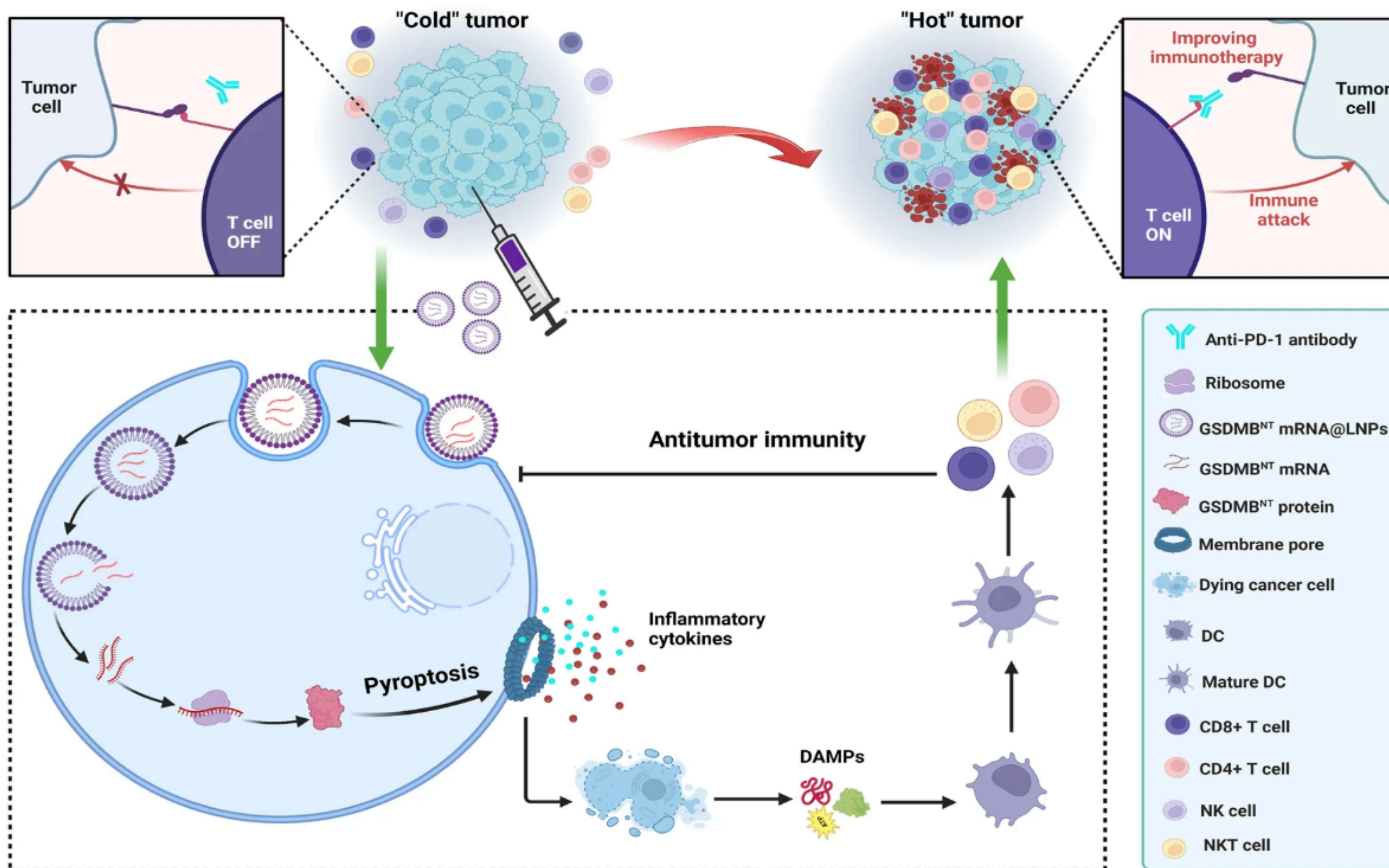


IV

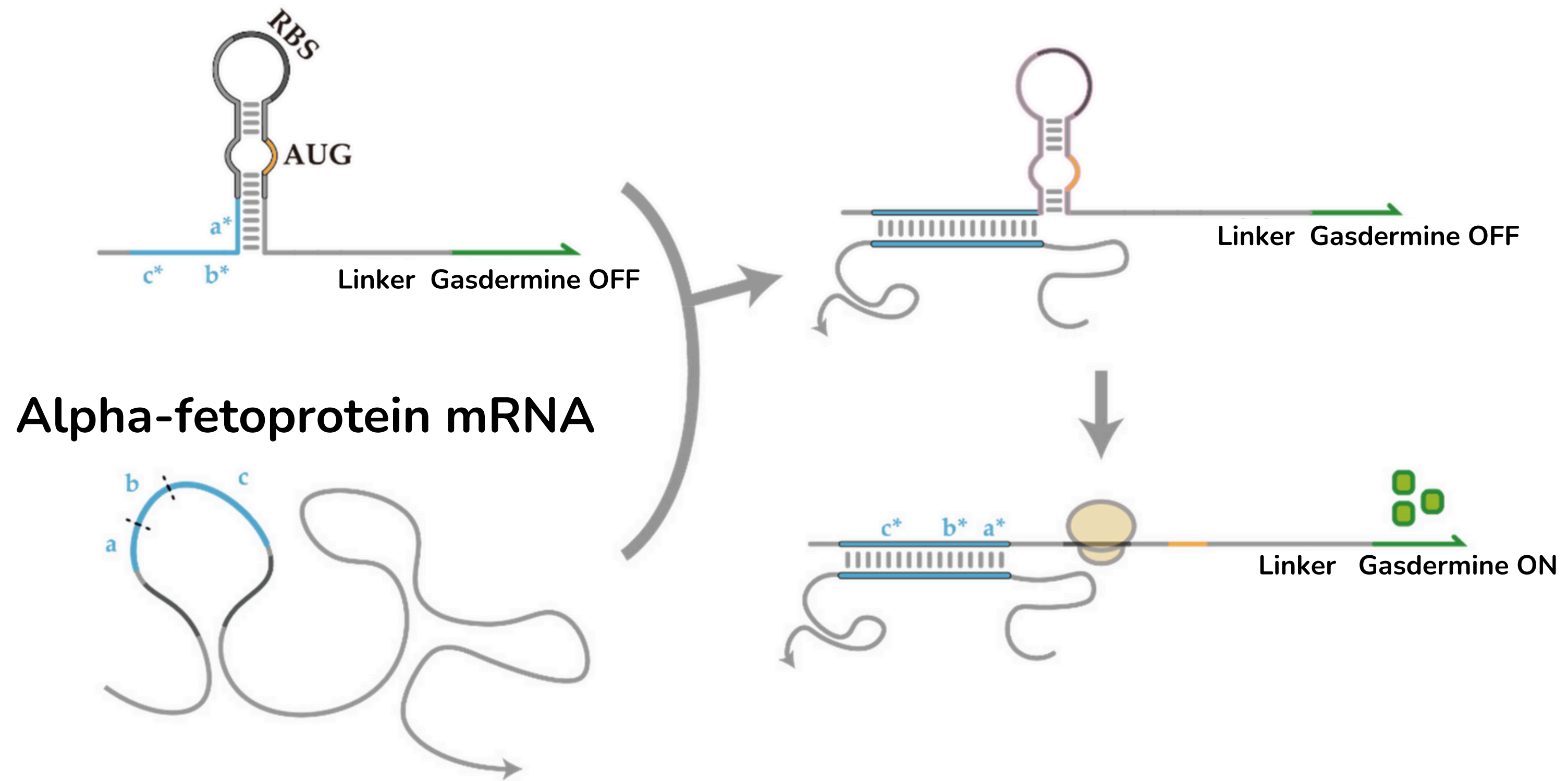




# PYROPTOSIS



# OUR SOLUTION





# WHY US ?

**Brand exposure**

**Access to talent**

**Social responsibility**

**Commitment to  
innovation and  
prestige.**

# BENEFITS

**1. Partner spotlights**

**2. Contests & giveaways**

**3. Recordings with employees**

**4. Acknowledgments**

**5. Logo**

**6. Product presentation**



# TEAM

The project is being developed by **14 students** of biotechnology, medicine, bioinformatics, and media logistics from four different universities in Warsaw: UW, WUM, PW, and SGGW. Seven team members work in the wet lab, four in the dry lab, and four in communication.



Let's stay  
in touch !

HEPASWITCH  
iGEM 2025



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HepaSwitch