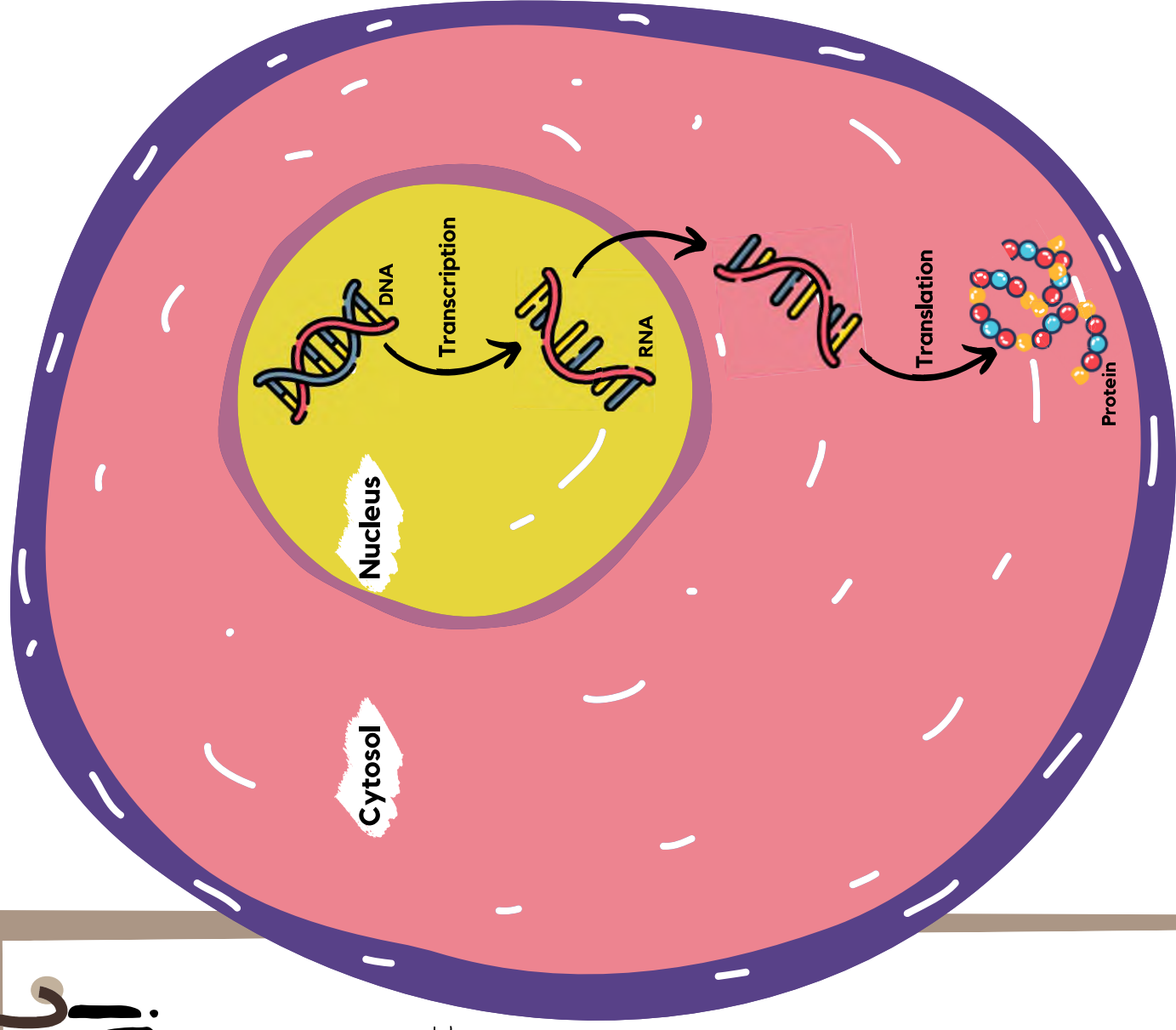


# Let's cook a protein!

We humans, like many other living creatures, have deoxyribonucleic acid (**DNA**) as our genetic material. This is like a precious cookbook full of ancient recipes that encode for the different **proteins** in our body. But we cannot work with such an invaluable book in the kitchen, it could get damaged! That is why we keep the book (**DNA**) in a safe place (the **nucleus**) and take notes of the recipes we want to cook (**RNA**) so we can bring them to the kitchen (**cytosol**): this process is called **transcription** and copies segments of the **DNA** into **RNA**.

Once in the kitchen, we can start cooking! Now we can take our notes (**RNA**) and see which ingredients we need (**amino acids**) in order to obtain the final recipe (**protein**): this process is called **translation** and decodes the **RNA** into an **amino acid** chain using a codon system. This system assigns a specific **amino acid** to each group of three **bases**, creating an **amino acid chain** that later folds into a **protein**.




# CCCCCCCCCCCC

**Here you have the notes (RNA) and the codon table necessary to translate them into a delicious meal (protein).**

	RNA	SENTENCE
1	UCA CUC UGU UUG AGU AGC CAU AAA GCA	
2	GUA UGU UUG AGU GAC AUA AAA UUU UAC	
3	UCU GGG UUA AGU UGC CGA	
4	GAU GUG AGU GCG AUA	
5	AUU ACA AGU CAG	
6	CUA CGC AAA AAC CCG CUC GGA	

**Something happened to the cookbook... a mutation! This mutation alters the last sentence of the recipe, how does it go now?**

	RNA	SENTENCE
6 (mutated)	 CUG ACG CAA AAA CCC GCU CGG A	

**Any idea of what the recipe is for? You can try both versions at home, the original and the mutated one!**

CODON	WORD	CODON	WORD
AAA	and	CUU	hundred
AAC	half	GAC	chocolate
ACA	pinch	GAG	sprinkle
ACC	boat	GAU	One
ACG	one	GCA	milk
AGA	cat	GCG	baking
AGC	flour	GCU	one
AGU	of	GGA	minutes
AUA	powder	GGC	sugar
AUU	A	GGG	a
CAA	egg	GUA	Two
CAG	salt	GUG	teaspoon
CAU	sugar	UAC	oil
CCA	pirate	UAU	Four
CCC	microwave	UCA	Mix
CCG	to	UCU	Half
CGA	extract	UGA	picture
CGC	two	UGC	vanilla
CGG	minute	UGU	tablespoons
CUA	Microwave	UUA	tablespoon
CUC	three	UUG	each
CUG	Incorporate	UUU	vegetable