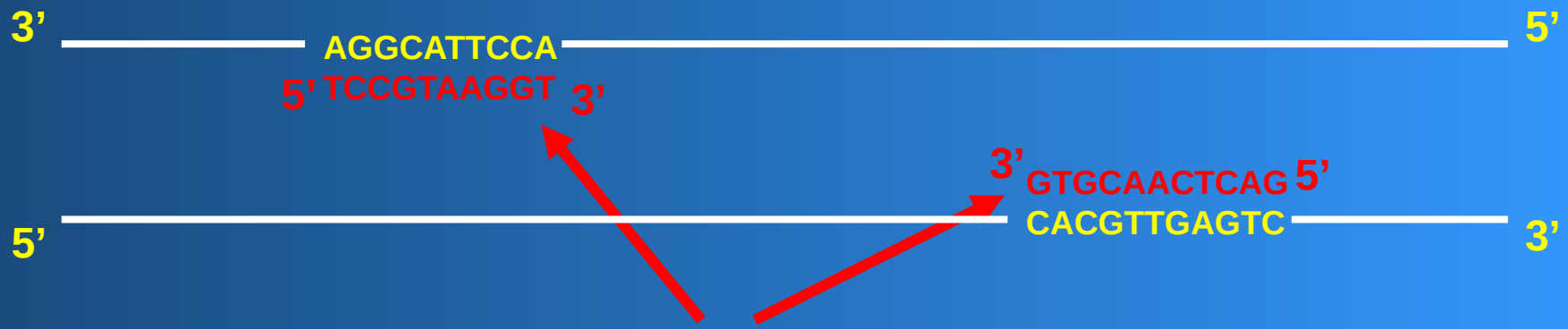
PCR – Polymerase Chain Reaction

Messa a punto da
Kary Mullis nel 1986,
Premio Nobel nel 1993

DNA ESTRATTO E PURIFICATO

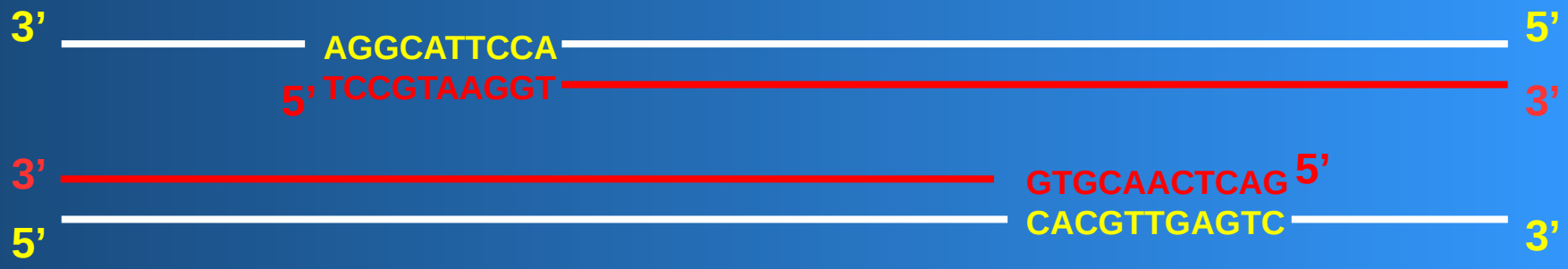
DENATURAZIONE TERMICA

IBRIDAZIONE (ANNEALING)

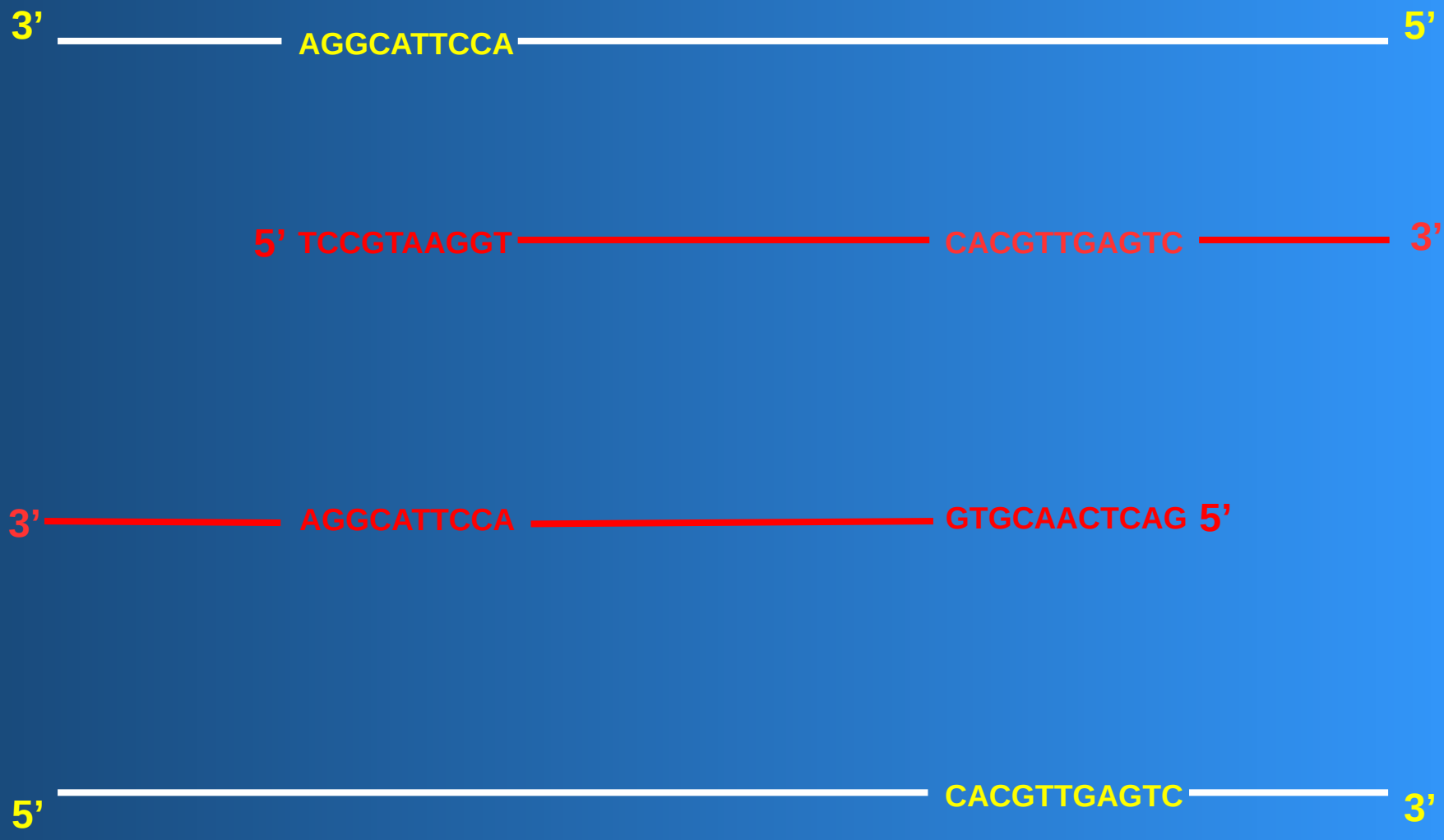


Giunzioni innesco/stampo (primers)

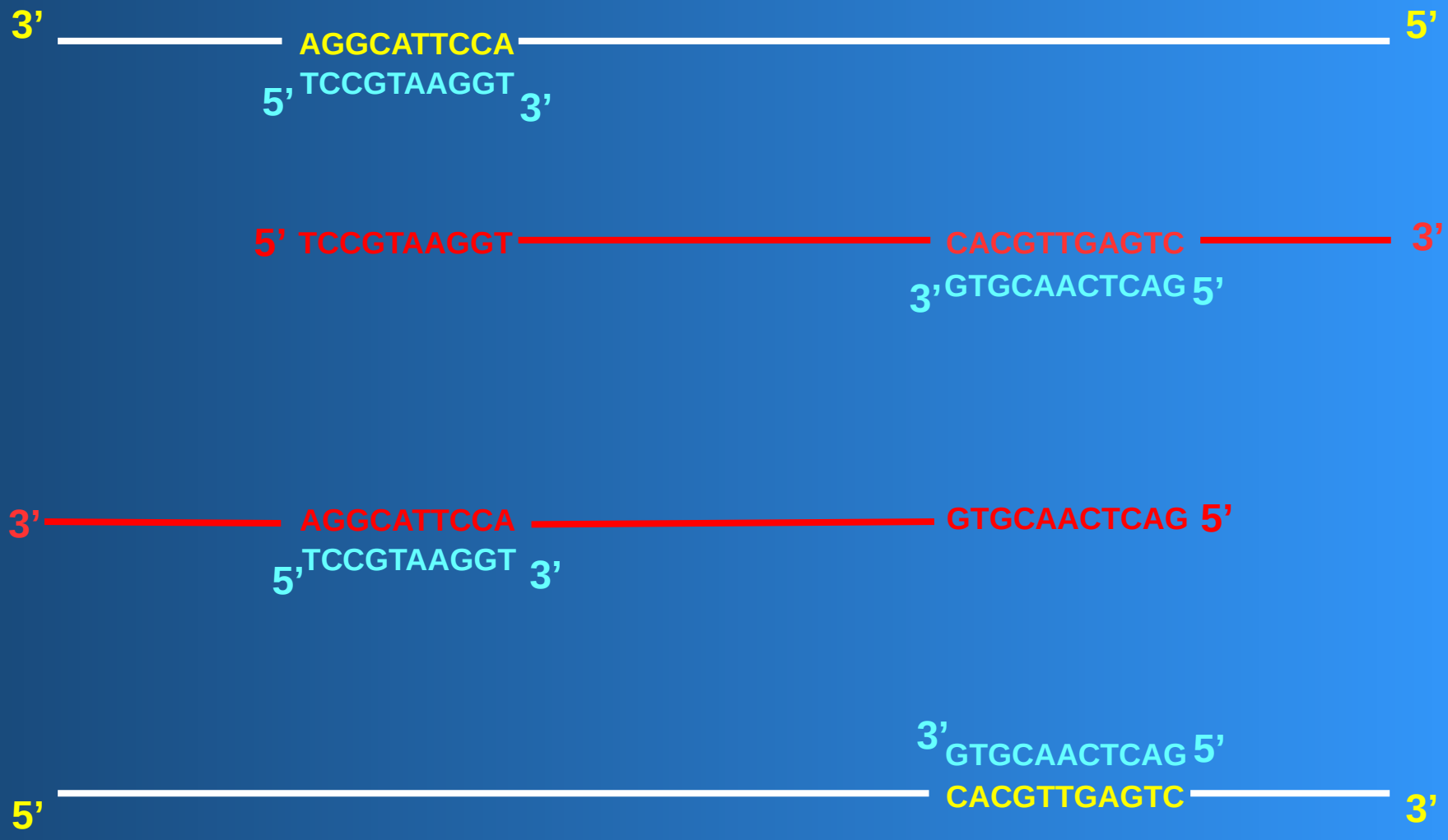
ELONGAZIONE



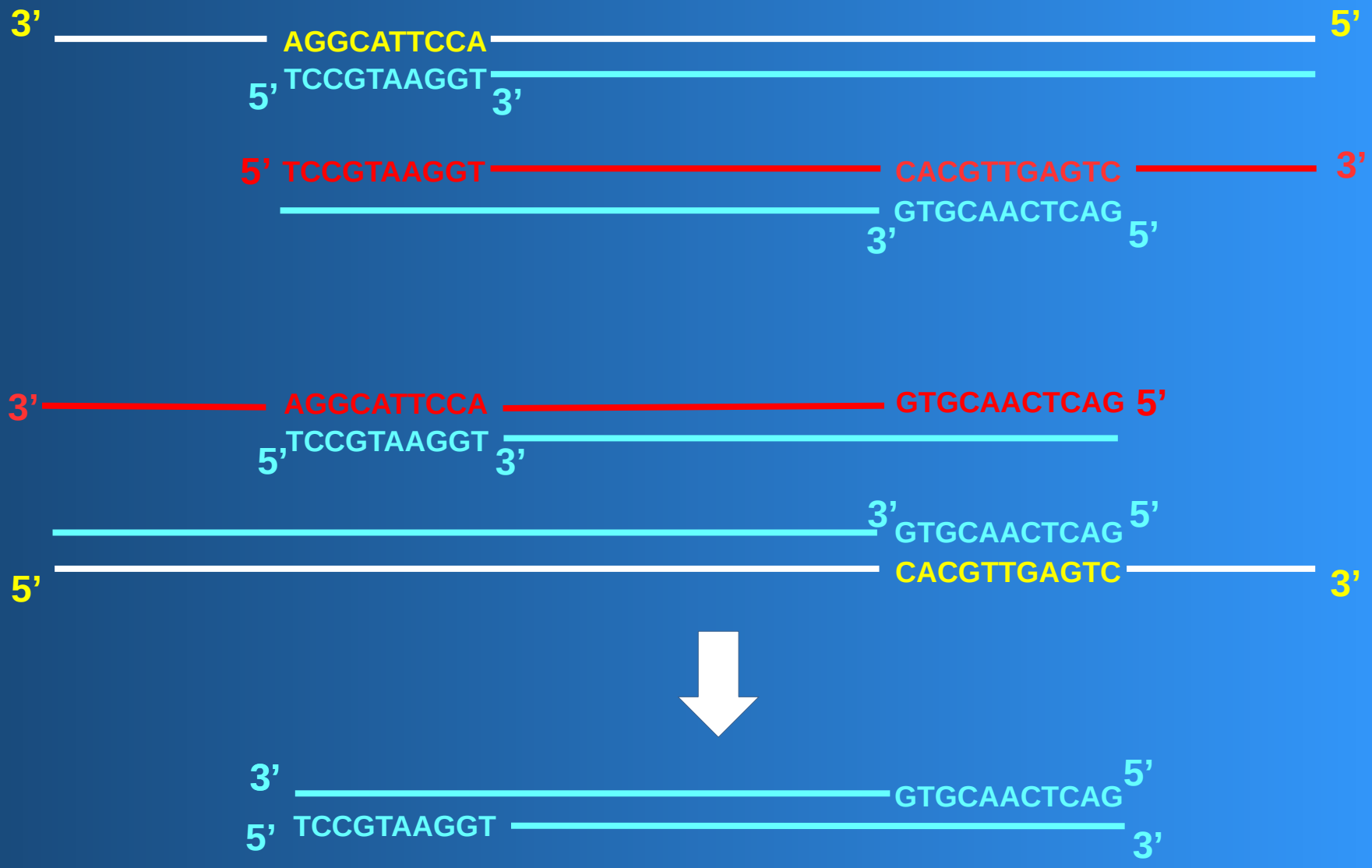
DENATURAZIONE TERMICA



ANNEALING

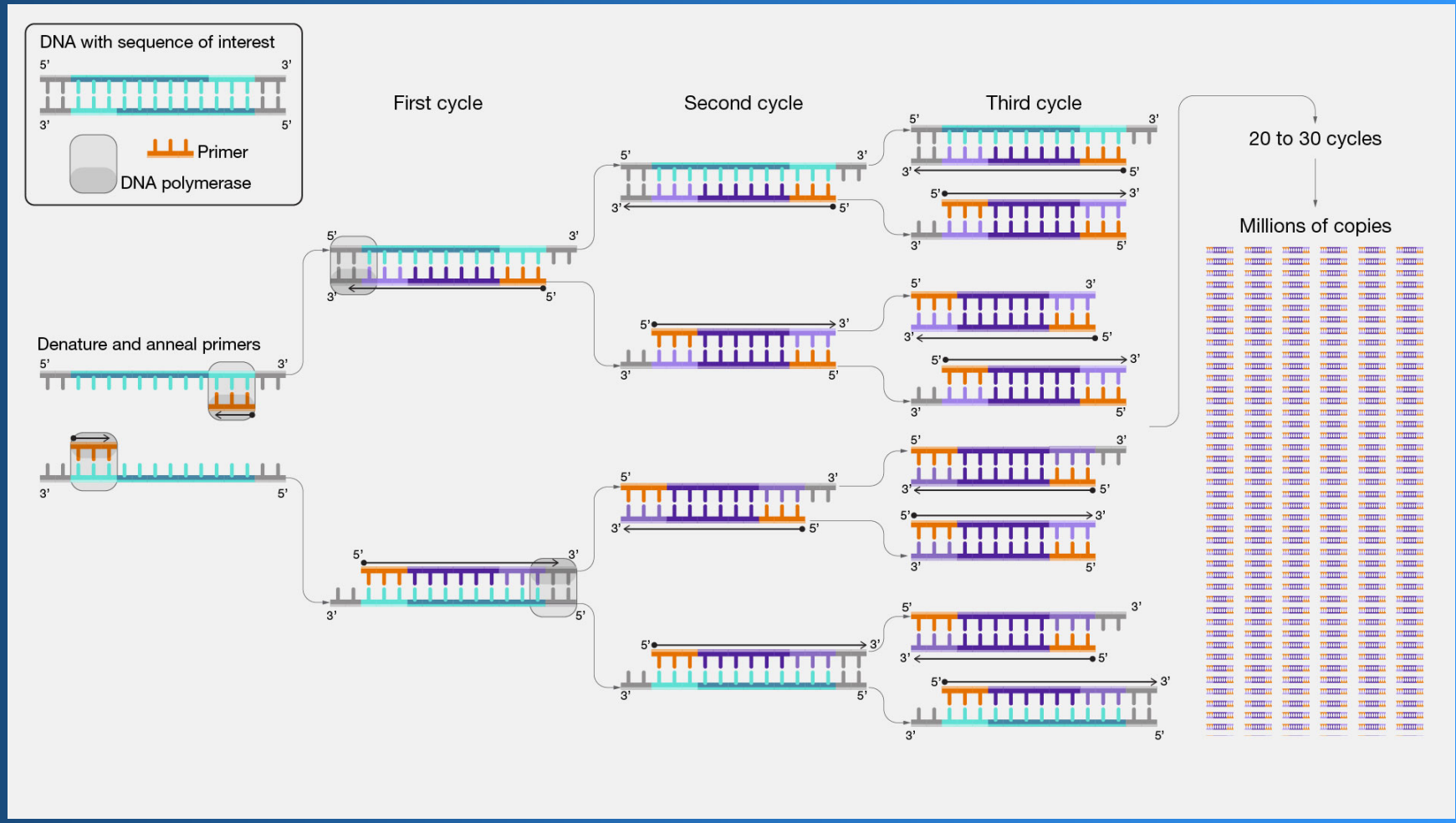

3’
AGGCATTCCA
5’ TCCGTAAGGT 3’
5’
5’ TCCGTAAGGT
CACGTTGAGTC
3’
3’ GTGCAACTCAG 5’
3’
AGGCATTCCA
GTGCAACTCAG 5’
5’ TCCGTAAGGT 3’
3’ GTGCAACTCAG 5’
5’
CACGTTGAGTC
3’

ELONGAZIONE



PRODOTTO FINALE

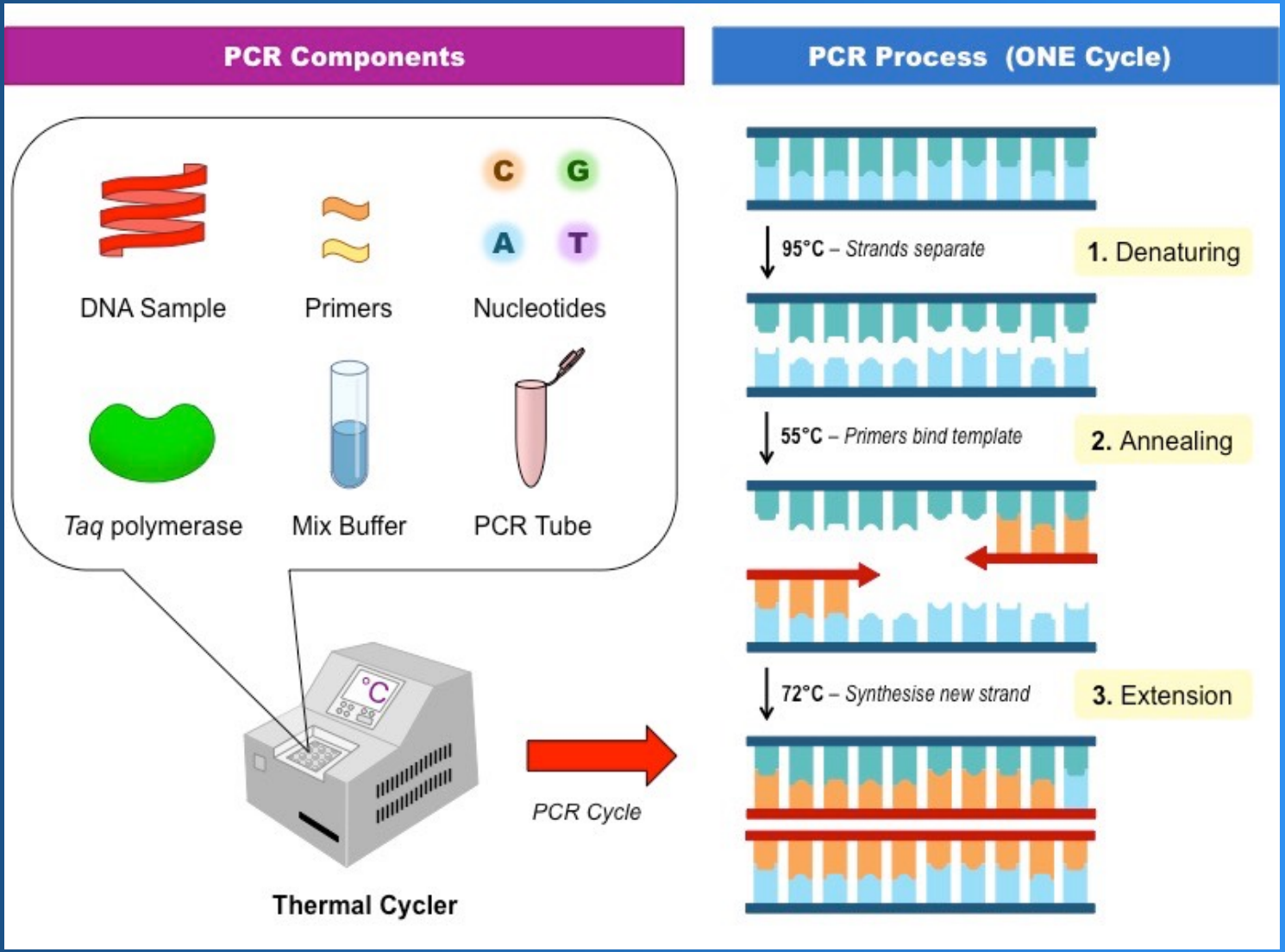
PCR – Polymerase Chain Reaction



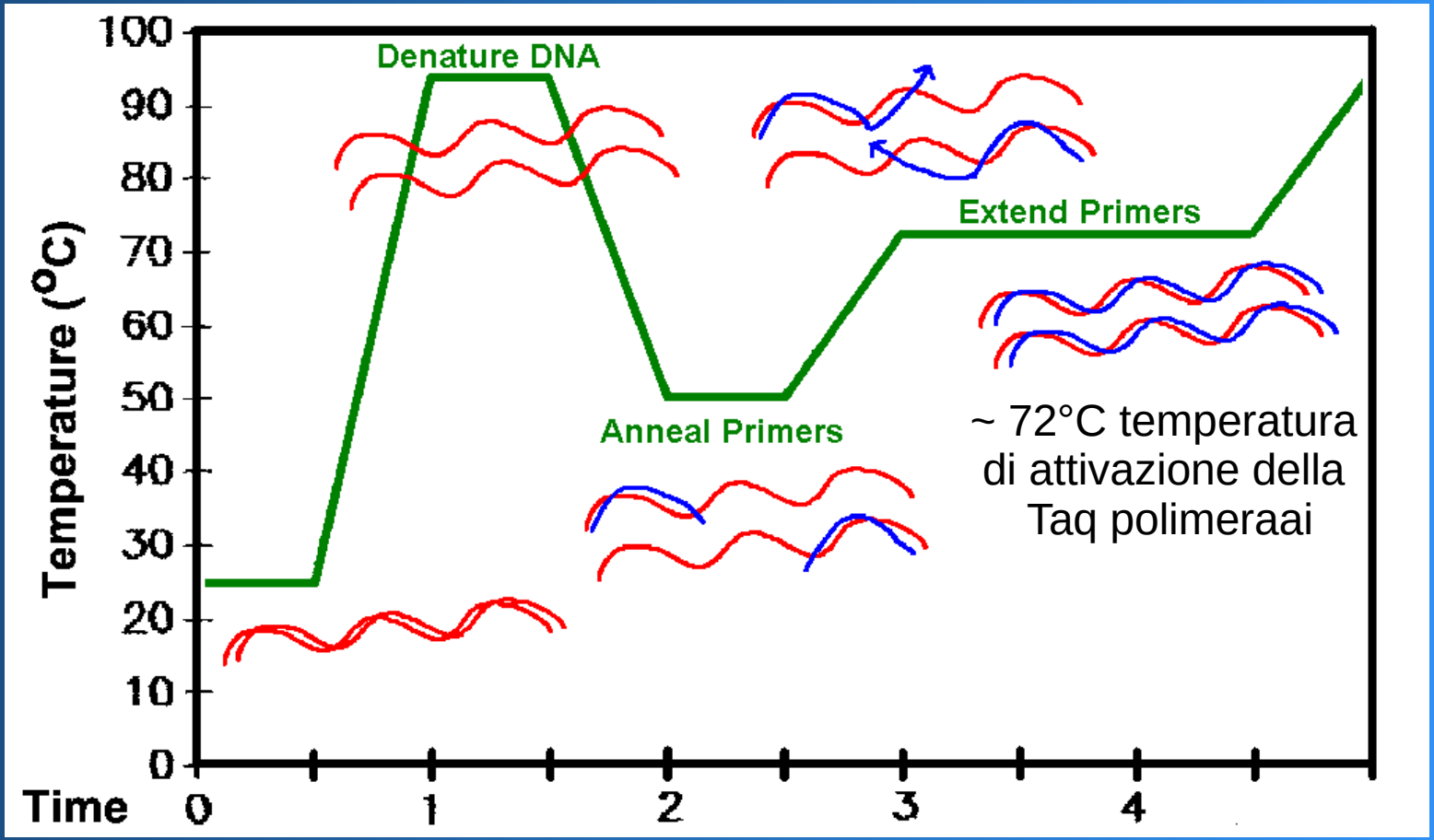
Da una esigua quantità di DNA a milioni di copie di uno specifico frammento

PCR – Polymerase Chain Reaction

reazione a catena della polimerasi

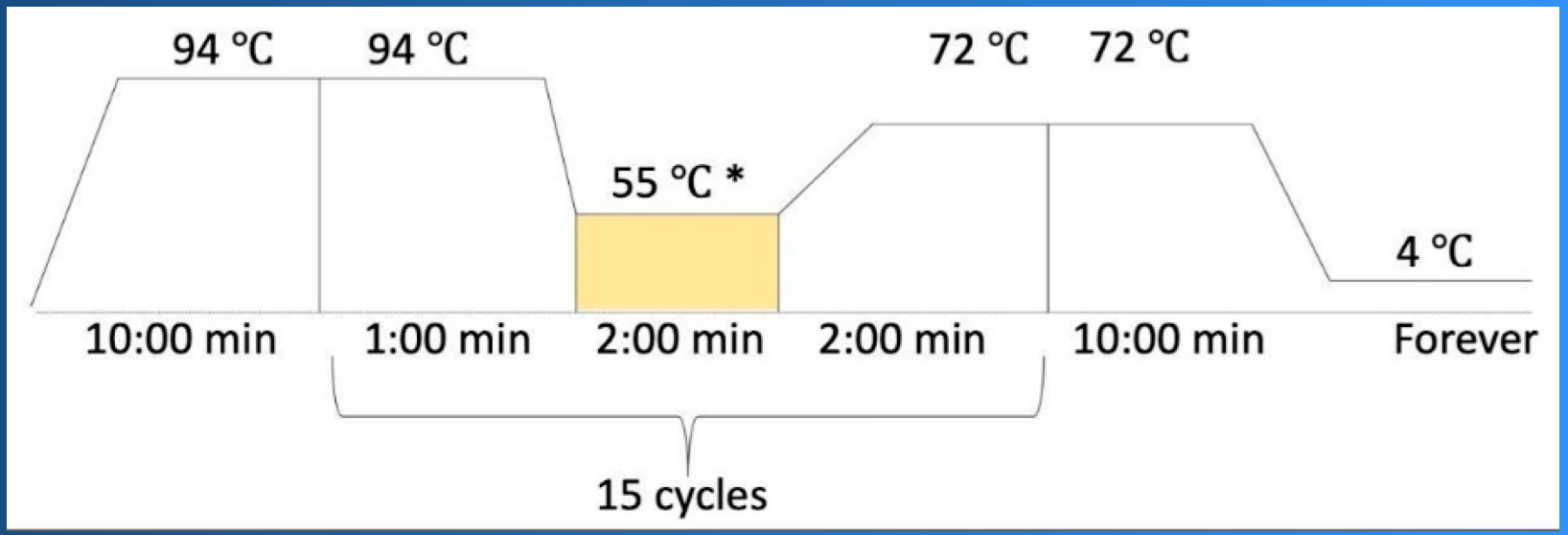


Un ciclo di PCR

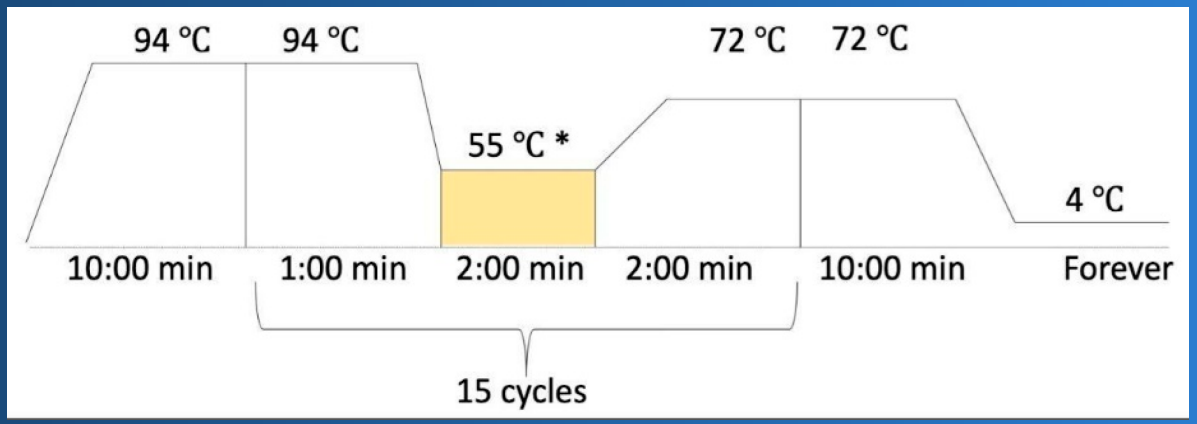


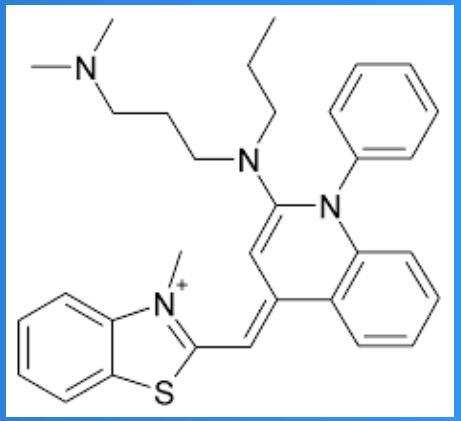
Servono polimerasi <u>termoresistenti</u>:
la Taq (Thermus acquaticus) polimerasi a 100° è parzialmente denaturata ma si rinatura al calare della temperatura

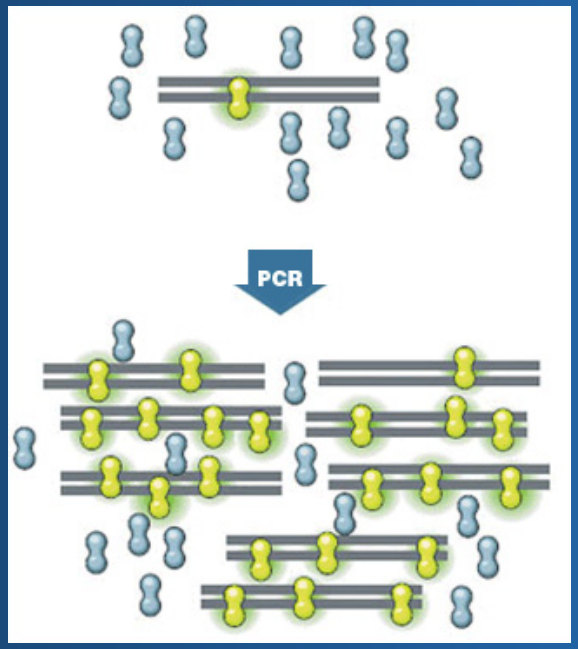
Il termociclatore

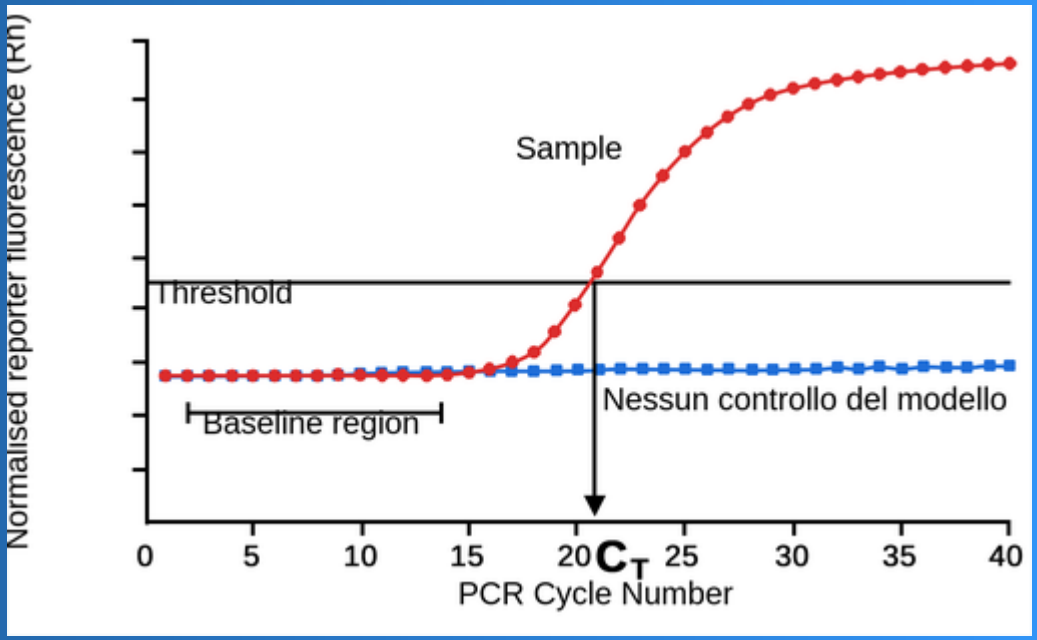


La PCR quantitativa (qPCR)









Visualizzazione del prodotto di PCR