

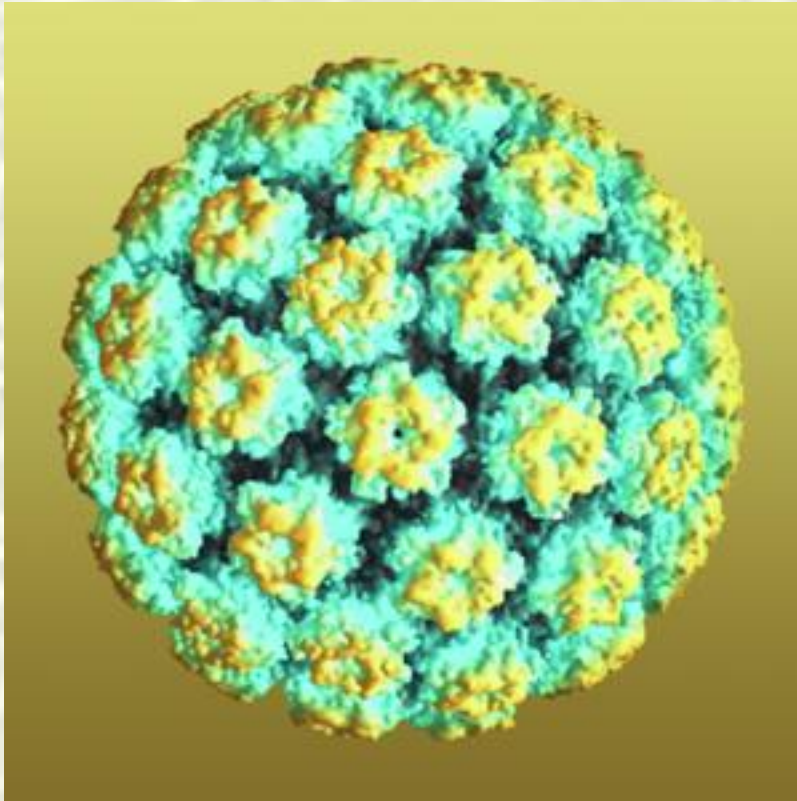
Папилломавирусы человека (HPV)

Доклад
по с/к «Генетика МО»
студентки гр. БГ-51
Рудневой Юлии

Проявление поражений НРV



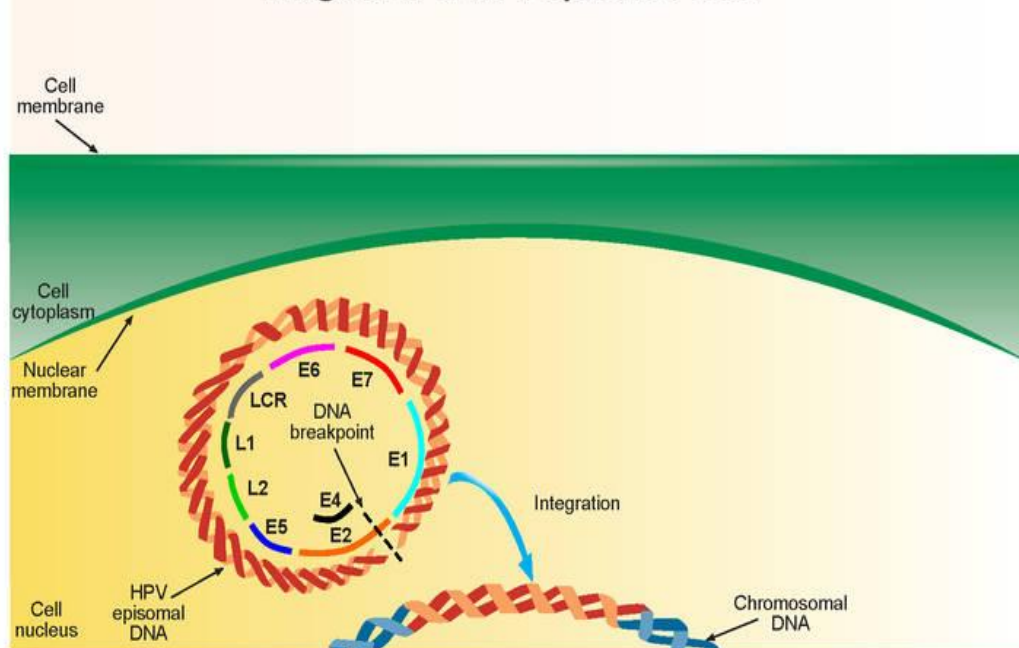
Вирион НРV



- . Вирус лишен внешней оболочки. Капсид диаметром 50-55 нм имеет форму икосаэдра и состоит из 72 капсомеров. Капсомер состоит из 2-х структурных белков: 57 кД позднего протеина L1, на долю которого приходится 80% всей вирусной частицы, и 43–53 кД белка капсида L2.

Наследственный аппарат

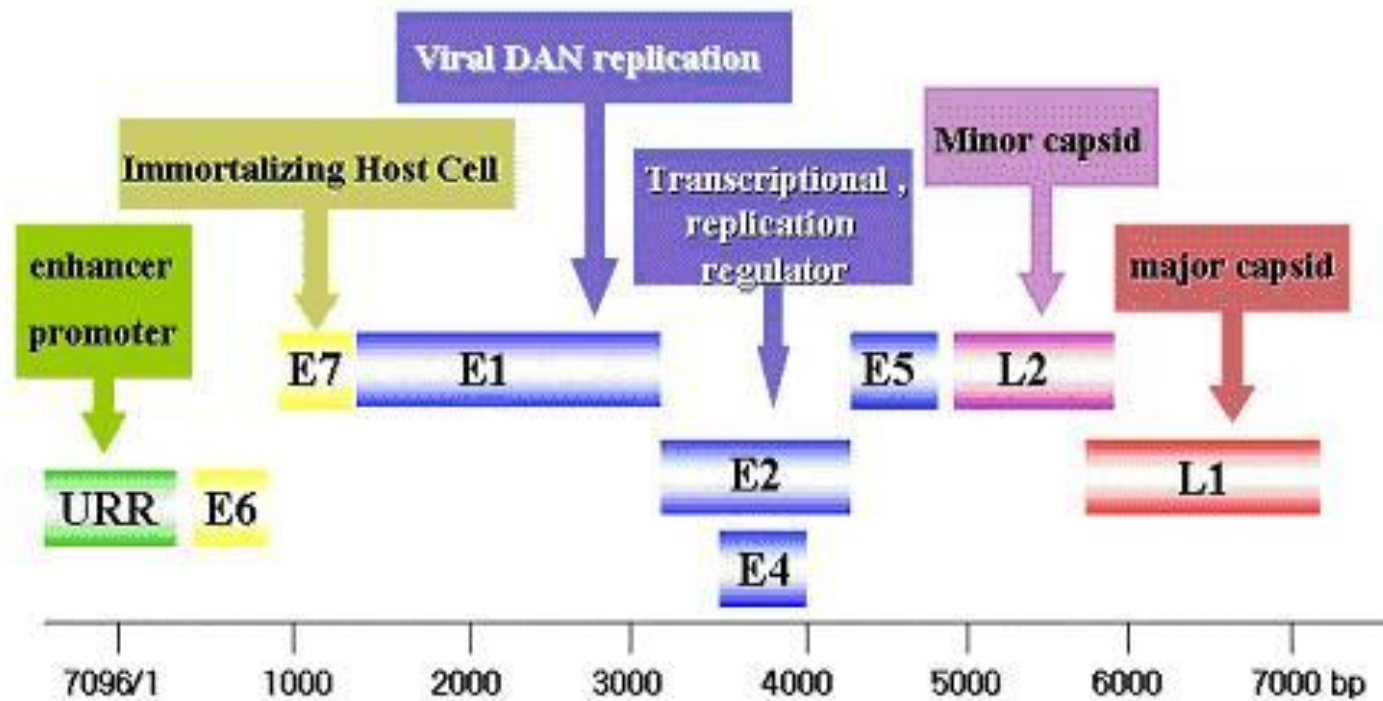
Integration of HPV episomal DNA



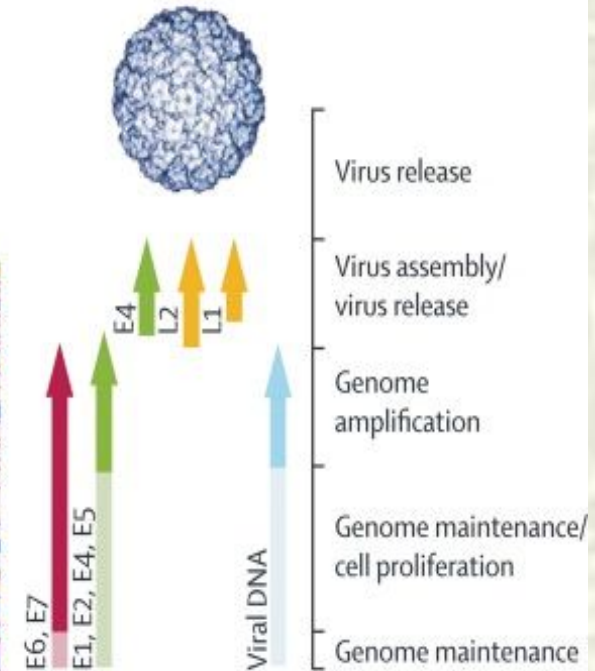
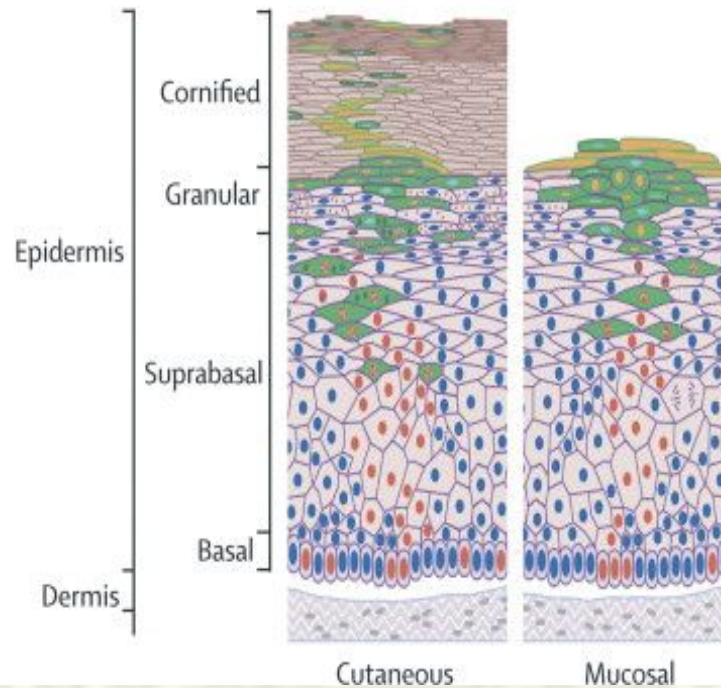
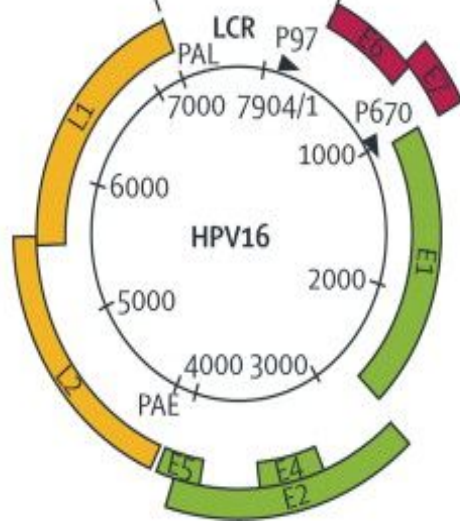
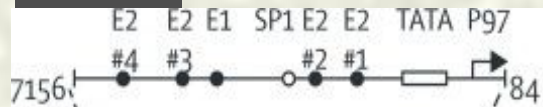
In certain instances during the replication cycle of HPV, the episomal DNA can be linearised and integrated into chromosomal DNA. A breakpoint that disrupts the HPV E2 gene will prevent the synthesis of E2 proteins that normally regulate the transcription of E6 and E7 oncoproteins. An increase in the production of E6 and E7 is associated with the risk of development of carcinoma due to the inactivation of cellular tumour suppressor proteins p53 and Retinoblastoma protein (pRb) that normally function to prevent cells with DNA damages from proliferating.

- Кольцевая молекула ДНК, попадая в базальные клетки эпителия реплицируются.
- Затем встраивается в хромосому хозяина. Активная репликация

Геном вируса



Экспрессия вирусного генома



Гены HPV

TABLE 1

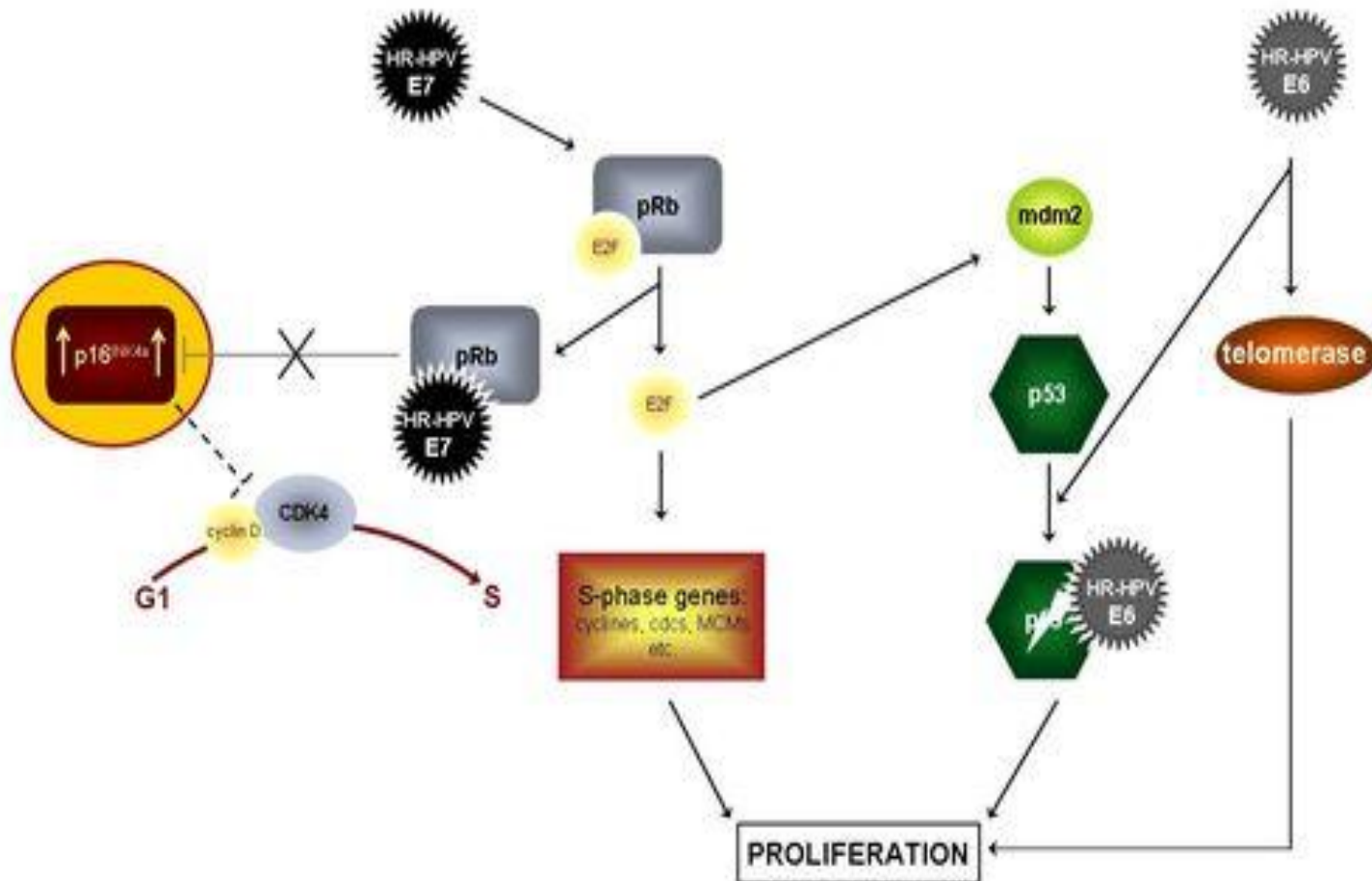
Open reading frame	First nucleotide	Potential ATG start codon	Nucleotide preceding stop codon	Size from ATG in bp	Amino acid coding capacity in daltons
E6	65	83	556	474	19191
E7	544	562	855	294	11024
E1	859	865	1167	303	11116
	1104	—	2810	1707*	64145
E2	2725	2755	3849	1095	41831
E4	3332	—	3616	285*	10413
E5	3863	—	4096	234*	8543
L2	4133	4235	5653	1418	50694
L1	5526	5559	7151	1593	59563
Cat-box region:		TAATACTAAACTACAATA			Position 7896
TATAAA boxes:		TATAAAA			17
		TATAAAA			65
		TATAAAA			4289
Polyadenylation signals:		AATAAA			4213
		AATAAA			7200

10 20 30 40 50 60 70 80 90 100
ACTACAATAA TCCATGTATA AACCTAAAGG OGTAAACCCAA ATCGGTGGAA CCGAAACCCG TTAGTATAAA AGCAGACATF
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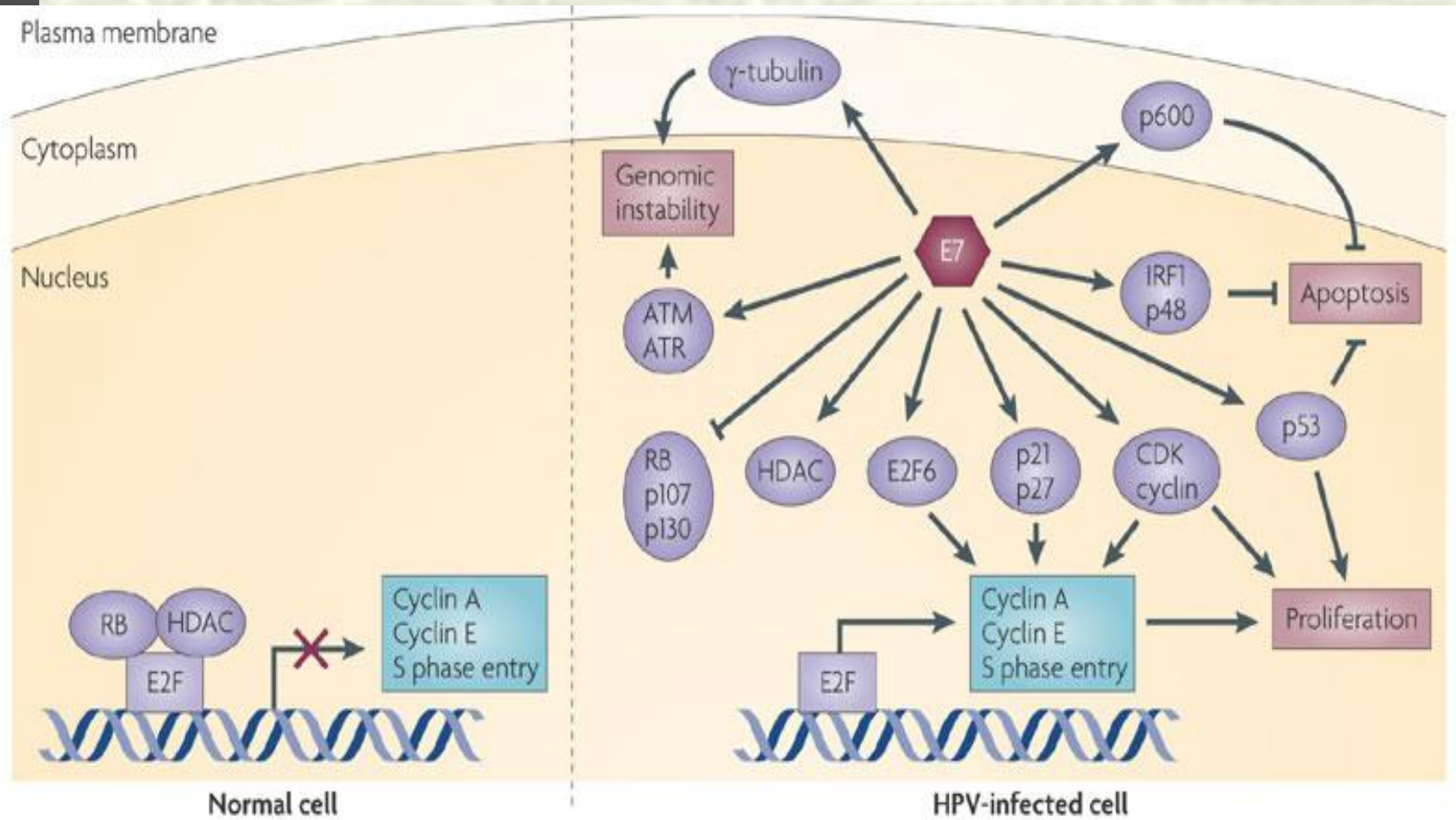
URR: регуляторы

- AP1 , YY1 , SP1 , TEF1 и TEF2 , NF1, Oct , KRF1 , C/EBP и ядерные рецепторы .
 - Транскрипционные факторы TEF1 и TEF2 имеют четыре сайта в энхансере HPV16 и они, по-видимому, являются активаторами для промотора P97
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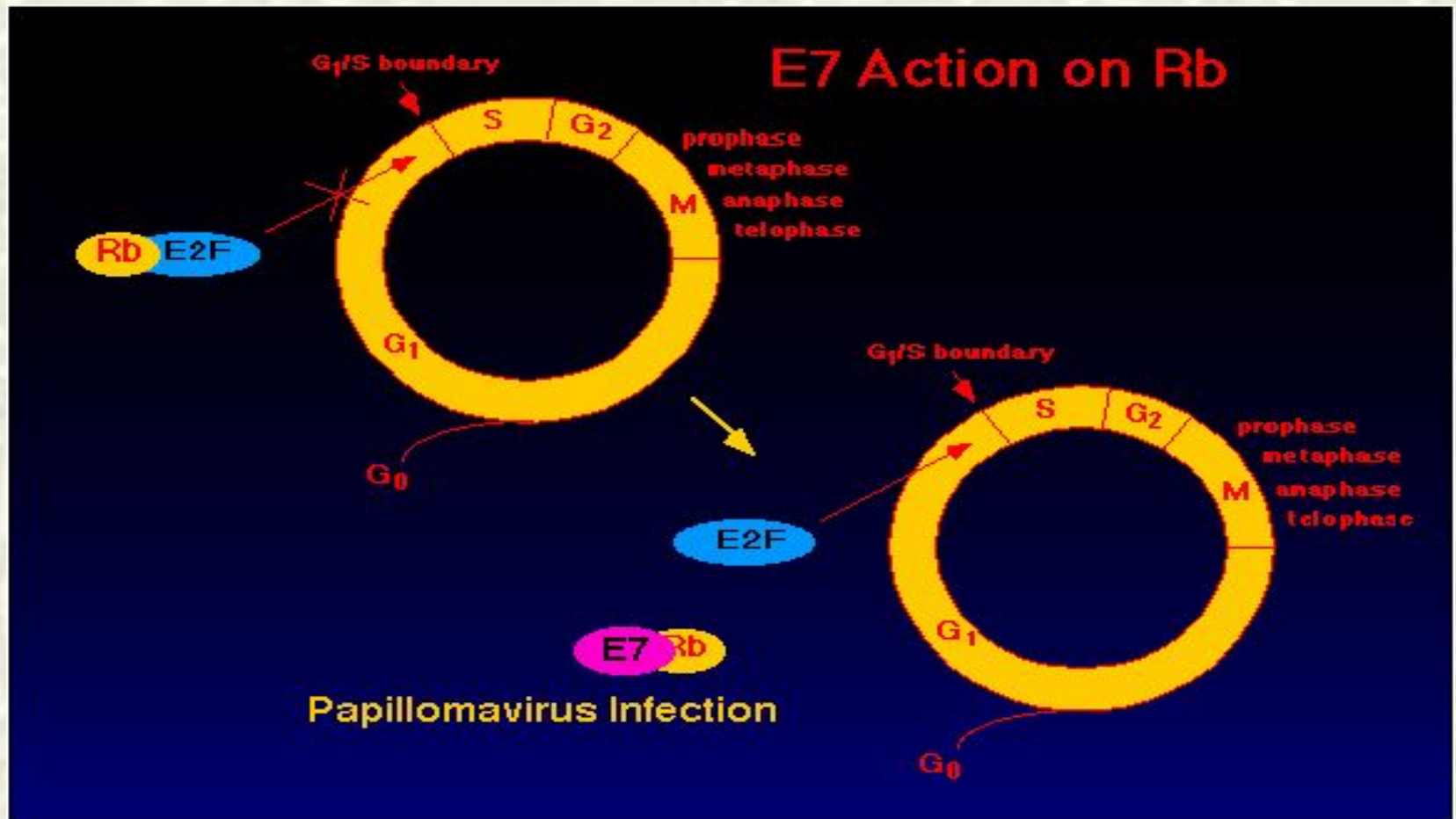
Действие «ранних генов» E6, E7



Действие E7



Изменение клеточного цикла



Спасибо за внимание!

