F215: genes

Transcription

- ODNA Helicase unsupe DNA and breaks the hydrogen bonds; DNA acts as a template
- @ RNA polymerase bunds to DNA
- (3) Moves along it from 5' end to 3' end
- @ Free RNA nucleobides are bound onto the exposed bases according to the complementary base-pairing rule [Auico]; the bases are thy drogen banded on
- (SRNA peels off strand of DNA and passes out through the nuclear pone

Translation

- @ MRNA binds to a rubosome ; the first codon is always AUG The ribusome reads it from S' to 3' end
- Terra molecules have a complete stery anticoday anticodon and
- cerry a specific animatical terresories tiplingen bonding) (O-AA is transportente to a stresome when 2 aprile acids are equicent, a peptide bond forms between them

I translation stops at a stop collon

How DNA codes for a protein

yere = a length of pint that codes for one or more polypepticles O 1° structure determined the order of bases (one AA= 3 bases)

- Ownich determines the specific order of amino acids
- Othis then determines the projecting side groups
- @ Leading to the 2° structure, involving It bonding Lanelix or spleated sneets
- Swhich determines the 3° structure, bound by disulfide bonds; ionic bonds
- (This determines the specific 30 shape which is stal for function
- OIF 3° structure altered, the shape will change & it can't function

Apoptusis programmed cell death

- OThe cytoplasm is broken dawn by enzyme and the call becomes densely packed with organelles
- @ The nucleus preaks down and fragments. chromatin condenses & the nuclear envelope breaks down
- 1) "Blebs" form at the cell membrane
- @ organelles more into blebs and form vesides
- Sphagocytes digest the vesicles by phagocytosis

Benefits:

* very fast * NO toxic chemicale & hydrolytic enzine a leve with necrosis uses: * controle line & eligit ictell apprent of 22 * destroys preserve T lypla scyter in the immine system

where a blinn b bra ??

* prevents all cells from dying in a viral attack

Hardy-Weinberg principle

A model to calculate allele fg in populations with dominant + recessive alleles

How?

eg. Take cystic Ribnosis

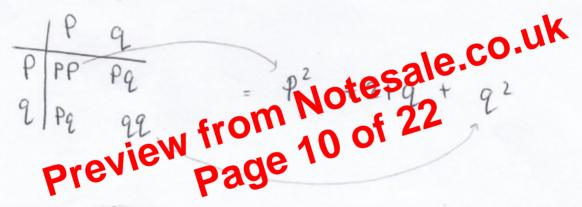
To be a sufferer, you must be homozygous recessive. * one in 2000 suffer from thisp

Let assign some symbols:

P = The Anequency of the dominant allele, CF

q= the to of the recessive allele of

so, the possible genotyper are:



recessive allele) is only either p (adominant allele) or q (a

P+9=1

* since the recessive sufferent probability is

1/2000

 $80 \ q^2 = \frac{1}{2000} = 0.0005$, so q = 0.022 (squere root it)

* Thus:

since ptg=1,

P+0.022=1 P=0.978

80 the x of earrier are:

2P2 = 2x0.978 x0.1022 = 0.043 = 4.31. of people