HSB 212-0389/2022

ICS 2240

HSB 212-0001/2022

HSB 212-0512/2022

Chromosome is a complex and organized structure used to package DNA.

The chromosome is made up of two types of proteins and are important in maintaining DNA stability and availability during replication. The proteins are histone and non-histone proteins.

**Functions of histone proteins**

* Reduce the size of DNA within the chromosome
* Packaging of DNA in the chromosome
* Winds DNA reducing its size by 10 folds

RNA is a multimeric with five sub-units:-

1. 2 alpha sub-units
2. 1 beta sub-unit
3. 1 beta prime
4. 1 sigma unit
5. Sigma H
6. Sigma G
7. Sigma E
8. Sigma F

**SPORULATION IN BACILLUS SUBTILIS**

Sporulation is due to starvation i.e.: lack of nitrogen and carbon source

B.Subtilis is able to form a spore which can survive for a long period of time. Under these adverse conditions and the spore has a protective coat that preserves the DNA needed for replication.

Replication is the formation of another copy of DNA

The protective coat reduces degradation of the genetic material and other important agents e.g. hormones and enzymes.

Under adverse conditions, sporulation is induced and therefore there is development of unusual cell wall on the mother cell resulting into two compartments.

Linoleic acid- C17H33COOH

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| --- | --- | --- | --- |
| **Name of student** | **Class** | **Gender** | |
| **Boy** | **Girl** |
| Mercy Makena | Form 1 south | Girl | |
| Joy Nderu | Form 4 West | Girl | |
| Sam Kibe | Form 3 North | Boy | |
| Kelly Wafula | Boy | |