

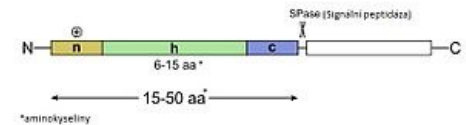
Signal sequence

Basic information

Breakdown

- sequence indicating the beginning of replication (in the D loop of mitochondrial DNA)
- transcriptional control sequences (located in front of, behind or even within the region they control).

Previously discovered were designated by the discoverers Hogness (eukaryote), Pribnow (prokaryote), TATA box (allows transcription to start from adenine surrounded by a group of pyrimidine bases, located about 30 nucleotides behind TATA in the direction from 5' to 3'). Adenine with a group of pyrimidine bases forms the so-called starting nucleotide (+1)



Signal peptidase

Function

- Important for the formation of the mRNA cap (sequence 5 nucleotides after the CATTC start nucleotide) and the signal for polyadenylation of the AATAAA mRNA end,
- ensure the uncoupling and joining of DNA at predetermined places,
- they have the ability to change the spatial arrangement and apply their information content - the so-called palindromes

completely,

incomplete palindromes (only partially complementary)

Medium repetitive sequences

It is found alone or in groups scattered throughout the genome. They are transcribed into RNA, but their function is not yet known.

They can be long or short. They contain Alu sequences in which restriction sites for the Alu I restriction enzyme are located.

In the human haplotype, there is a group of approximately 300,000-500,000 copies (5% DNA) of sequences. Said sequences have a dimeric character, they contain two consecutive sequences similar to each other.

Links

Related Articles

- Polypeptide signal sequences, free and bound ribosomes
- Regulation of gene expression in eukaryotes
- Regulation of gene expression in prokaryotes
- Transcription factors
- Restrictases

Reference

1. ↑ LIFTON, R P, M L GOLDBERG and R W KARP, et al. The organization of the histone genes in *Drosophila melanogaster*: functional and evolutionary implications. Cold Spring Harb Symp Quant Biol [online]. 1978, vol 42 Pt 2, pp. 1047-51, also available from <<https://www.ncbi.nlm.nih.gov/pubmed/98262>>. ISSN 0091-7451.
2. ↑ PRIBNOW, D. Nucleotide sequence of an RNA polymerase binding site at an early T7 promoter. Proc Natl Acad Sci U S A [online]. 1975, vol. 72, no. 3, pp. 784-8, also available from

<<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC432404/?tool=pubmed>>. ISSN 0027-8424.

References

OTOVA, Berta. Medical Biology and Genetics: Part 2. Prague 2008 edition. Karolinum Publishing House, 2008. ISBN 978-80-246-1594-3 .