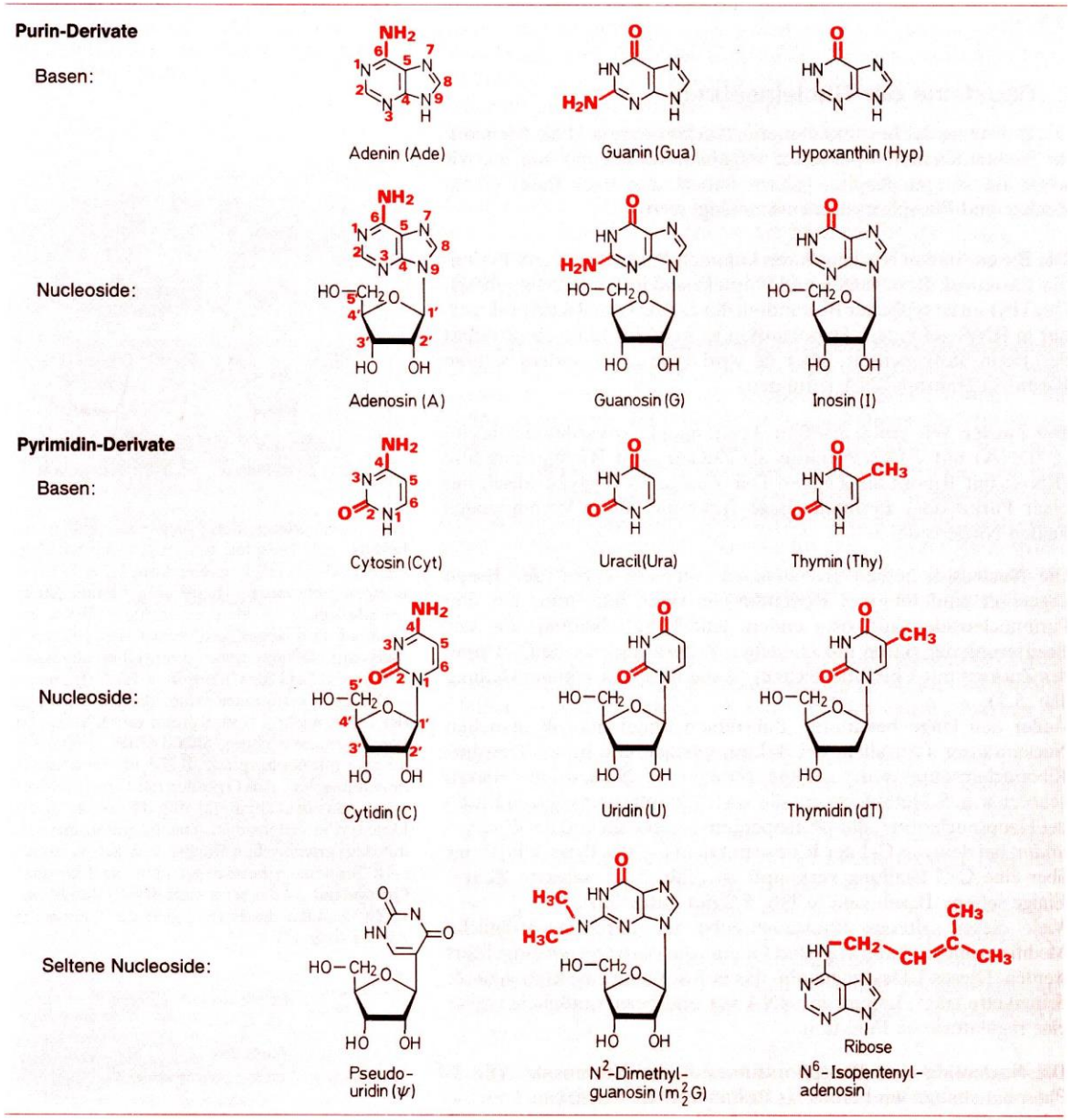
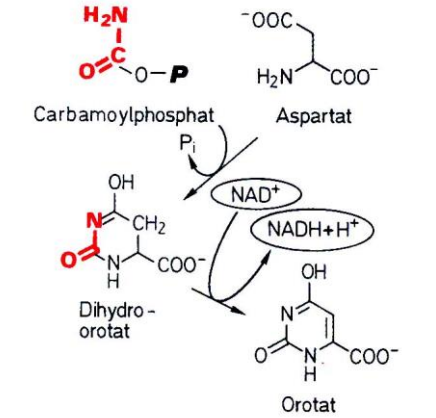
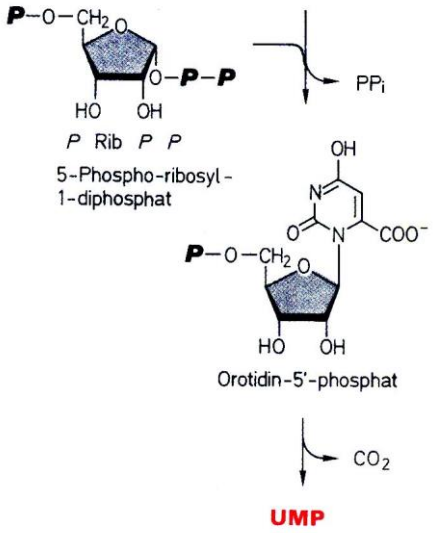
Nucleinsäuren



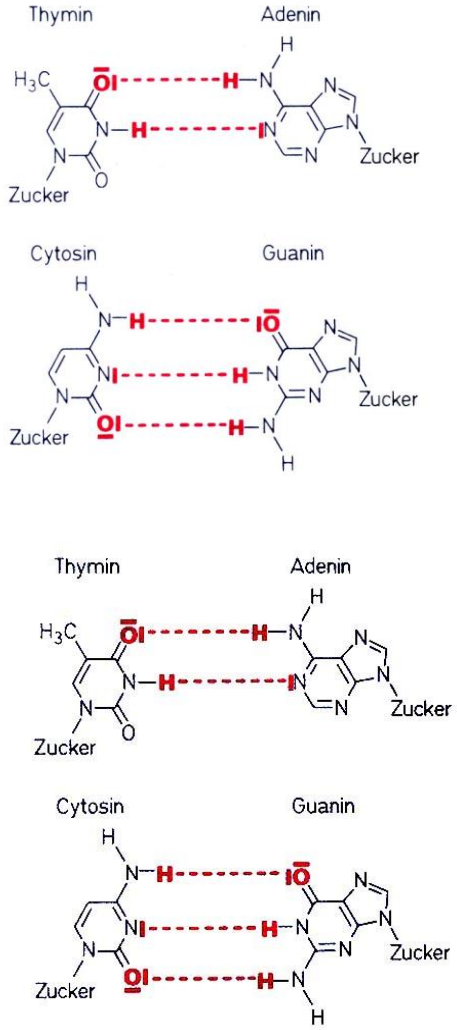
Nucleinsäuren

Synthese

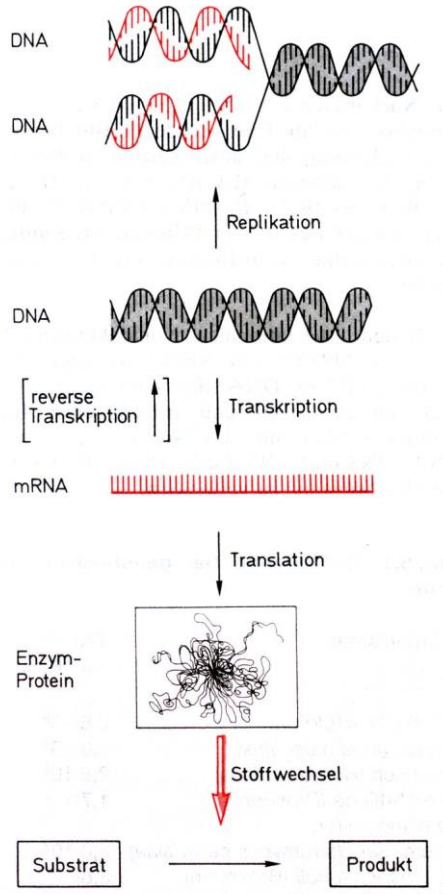




Basenpaarung

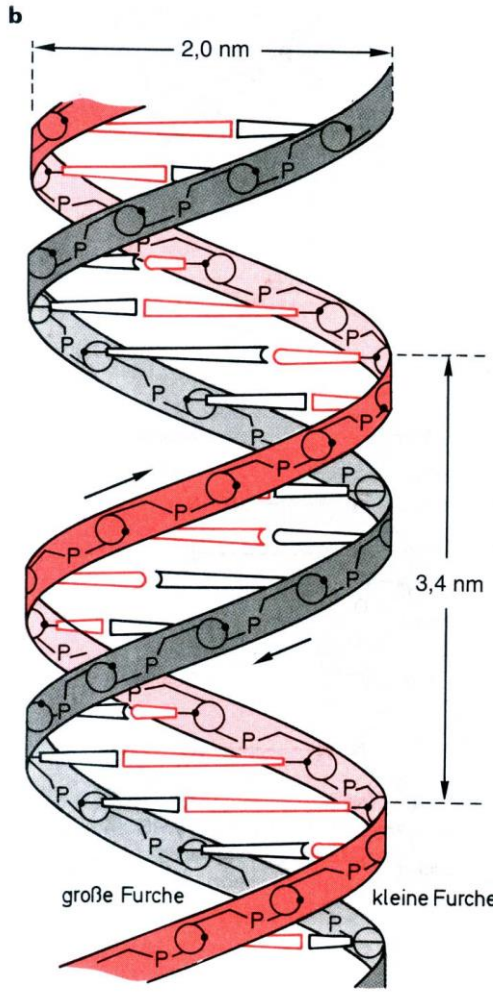


Biochemisches Dogma



Nucleinsäuren

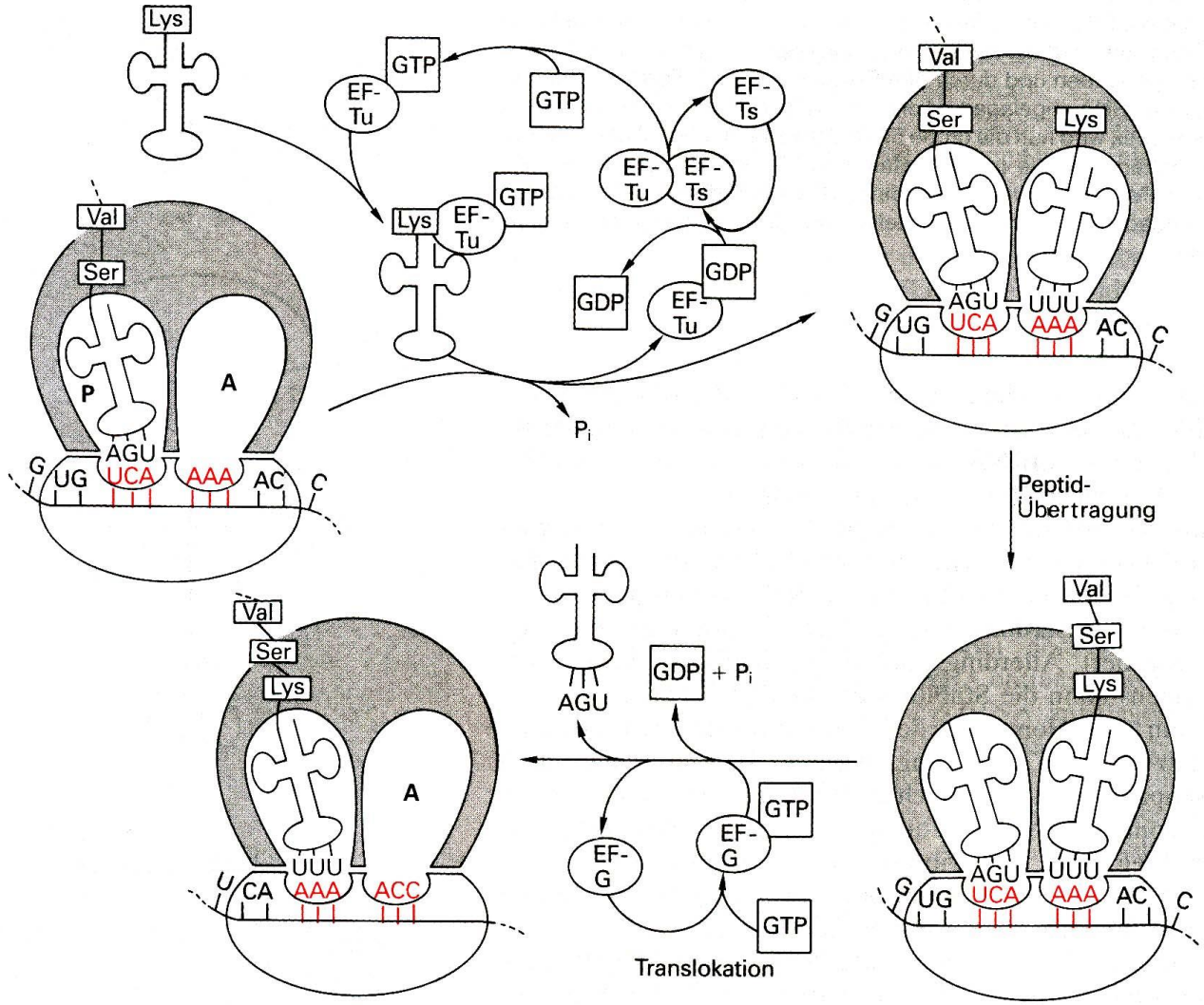
Genetischer Code



1. Base	2. Base				3. Base
	U	C	A	G	
U	Phe	Ser	Tyr	Cys	U
	Phe	Ser	Tyr	Cys	C
	Leu	Ser	„*Stop*“	„Stop“	A
	Leu	Ser	„*Stop*“	Trp	G
C	Leu	Pro	His	Arg	U
	Leu	Pro	His	Arg	C
	Leu	Pro	Gin	Arg	A
	Leu	Pro	Gin	Arg	G
A	lie	Thr	Asn	Ser	U
	lie	Thr	Asn	Ser	C
	lie	Thr	Lys	Arg	A
	Met (*Start*)	Thr	Lys	Arg	G
G	Val	Ala	Asp	Gly	U
	Val	Ala	Asp	Gly	C
	Val	Ala	Glu	Gly	A
	Val	Ala	Glu	Gly	G

Nucleinsäuren

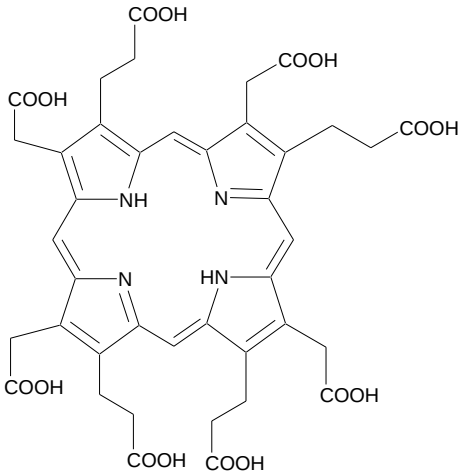
Translation an Ribosomen

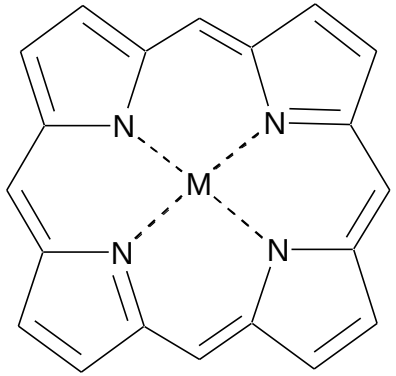


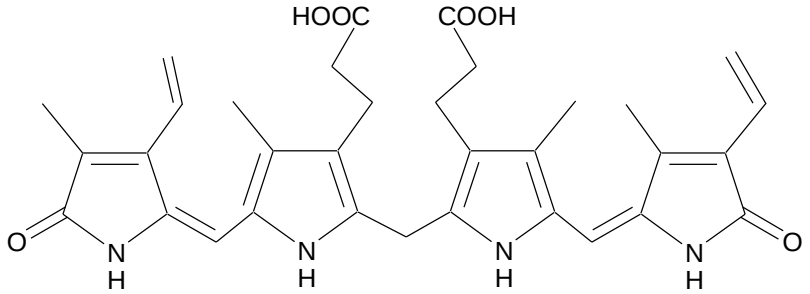
Porphyrine

Häm : O2-Transport im Hämoglobin (Blutfarbstoff)
Cytohäm: Atmungsferment / Cytochromoxidase
Chlorophyll: Photosynthese

HÄM / PORPHYRINE



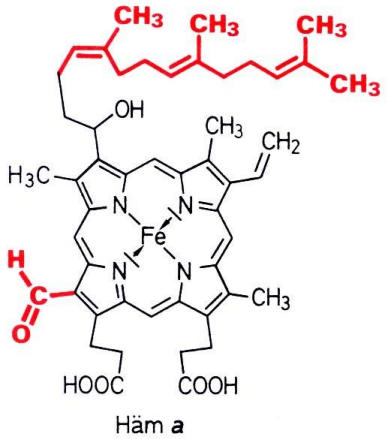




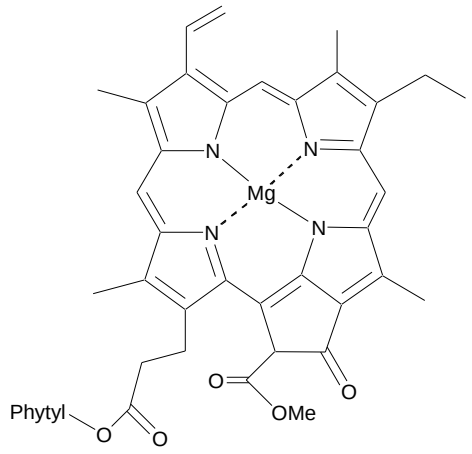
Bilirubin (Abbauprodukt des Hämoglogin in der Leber und Galle)

M: Fe^{2+} Häm (Blutfarbstoff)
Mg^{2+} Chlorophyll
Co^{2+} Vitamin B12

Uroporphyrin III (Vorstufe für Häm)

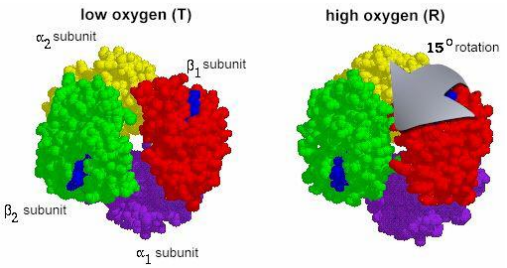


Häm *a*



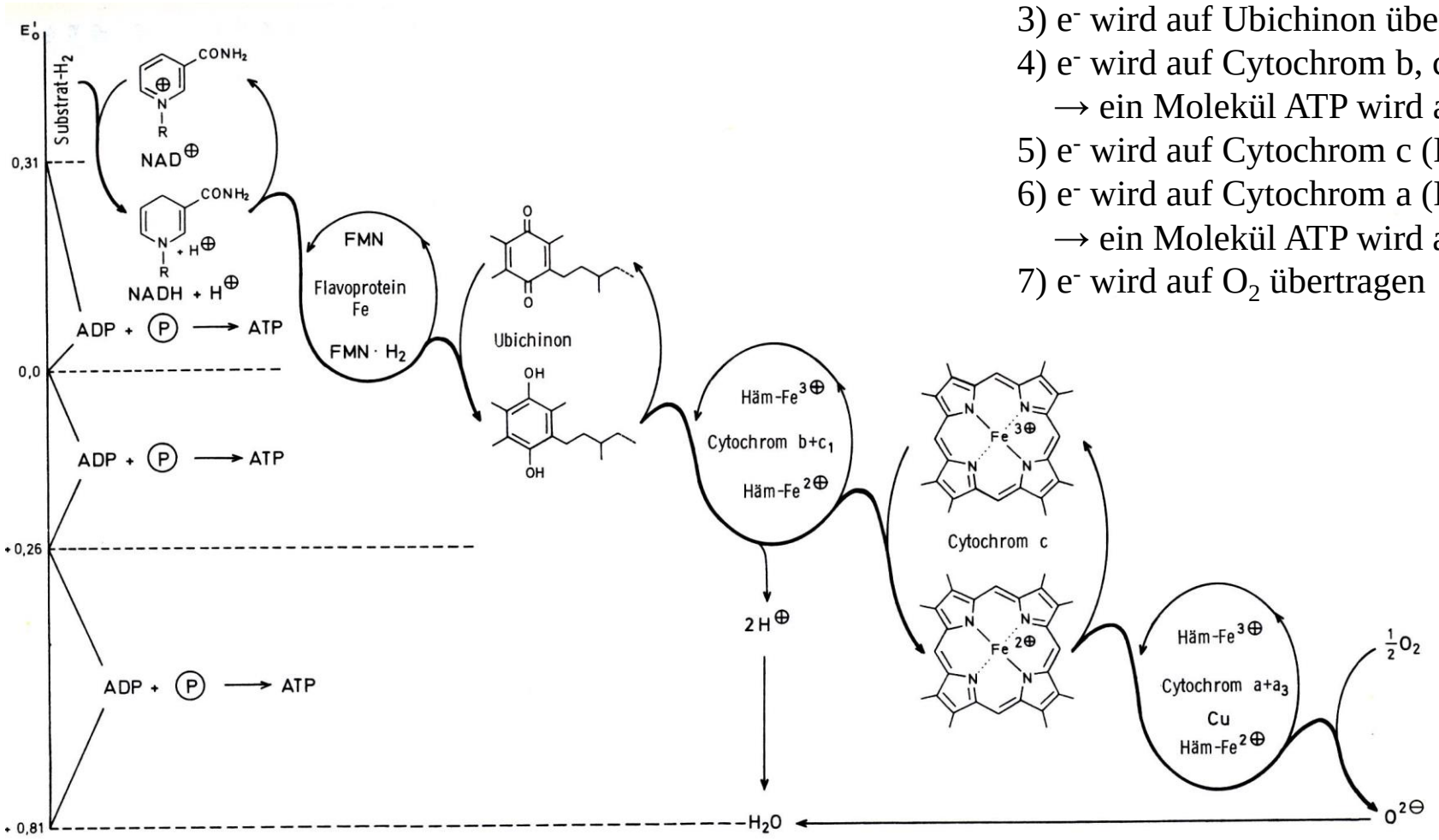
Cytohäm (Cytochrome) „PK“

Chlorophyll a



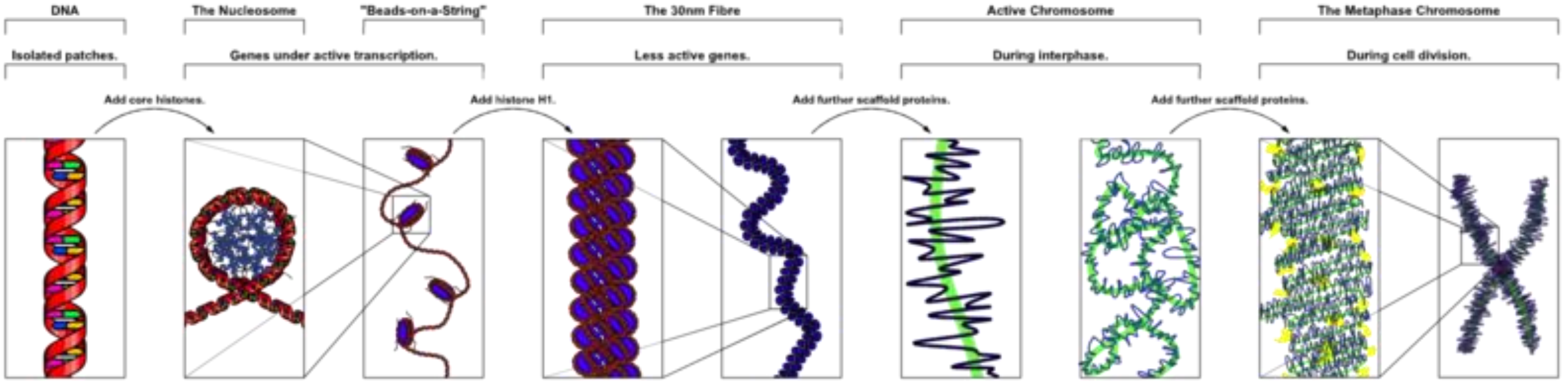
Atmungskette

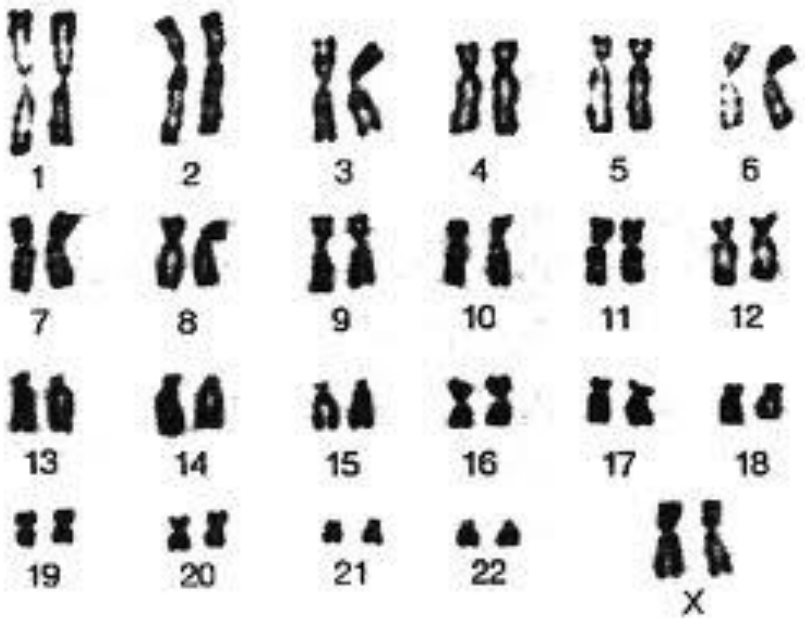
1) Substrat wird oxidiert (dehydriert) – NAD nimmt e^- und H^+ auf
2) NADH gibt [H] an Flavin ab
   → ein Molekül ATP wird aus ADP + P erzeugt
3) e^- wird auf Ubichinon übertragen (Ubichinon wird reduziert)
4) e^- wird auf Cytochrom b, c (Häm) übertragen
   → ein Molekül ATP wird aus ADP + P erzeugt
5) e^- wird auf Cytochrom c (Häm) übertragen
6) e^- wird auf Cytochrom a (Häm) übertragen
   → ein Molekül ATP wird aus ADP + P erzeugt
7) e^- wird auf O_2 übertragen

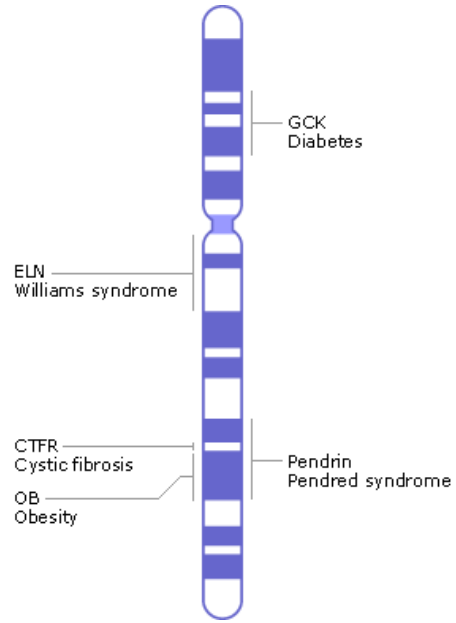


Chromosomen

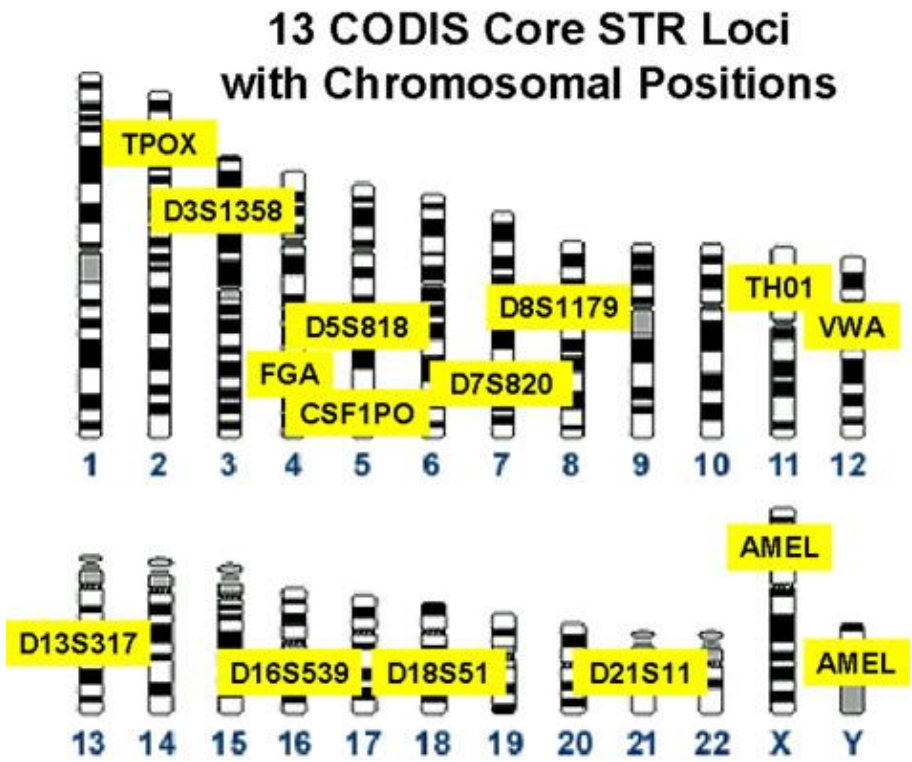
Loci der Gene auf den Chromosomen







DNA FINGERPRINTING



STR (short tandem repeats)
Number of direct repeats of sequences of 2-10 bases in the intron region of a DNA sample