

Transkription und ihre Regulation

Mechanismen der Transkription

- in Prokaryoten
- in Eukaryoten

Genregulation in Prokaryoten

Genregulation in Eukaryoten

Regulation des HO-Gens in der Bäckerhefe

HO-Gen: - Expression nur in der Mutterzelle (Ort)
 - Expression nur zu einem bestimmten Zeitpunkt (Zeit)

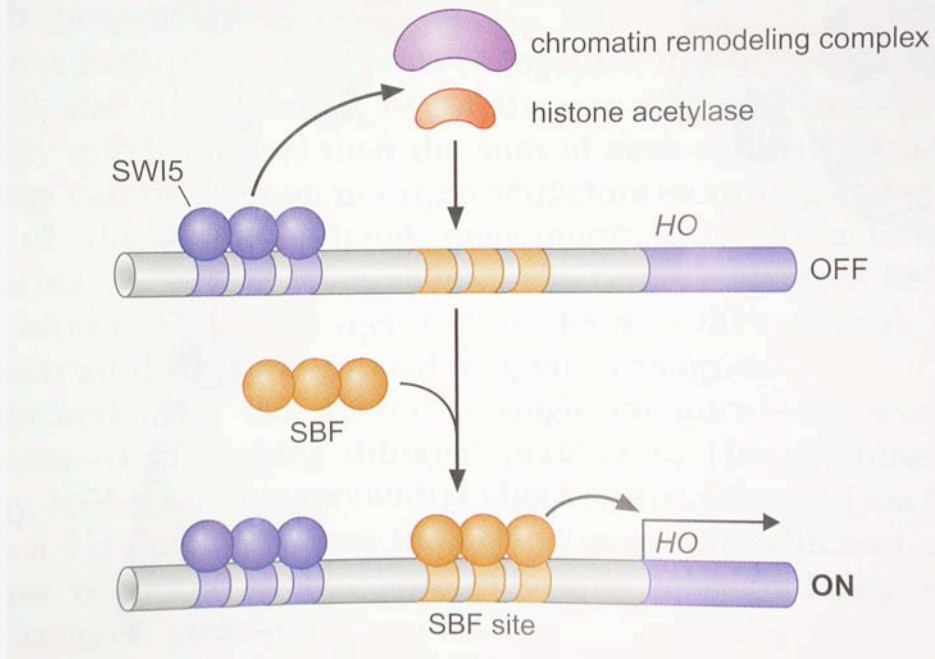
Mutterzelle: Transkriptionsfaktor SWI5
Zeitpunkt: Transkriptionsfaktor SBF

SWI5 : SWI5-Sites sind mehr als 1 kB upstream entfernt und werden von SWI5 selbstständig erkannt

SBF : SBF-Sites liegen in der Nähe des Core-Promotors und die Bindestelle ist durch Nukleosome blockiert



Regulation des HO-Gens in der Bäckerhefe

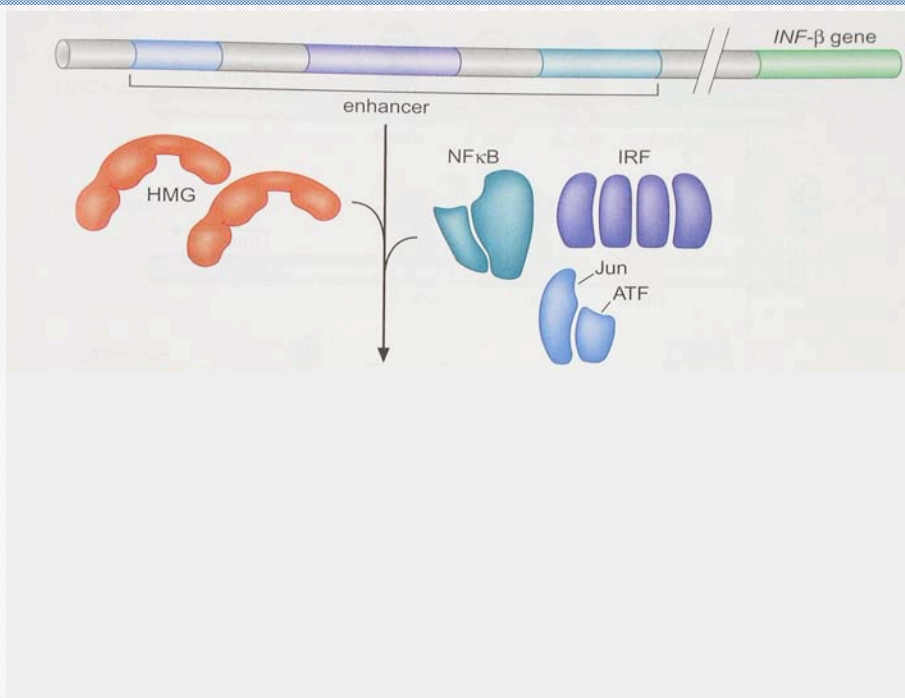


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Das Enhanceosom als Regulator des β -Interferon-Gens

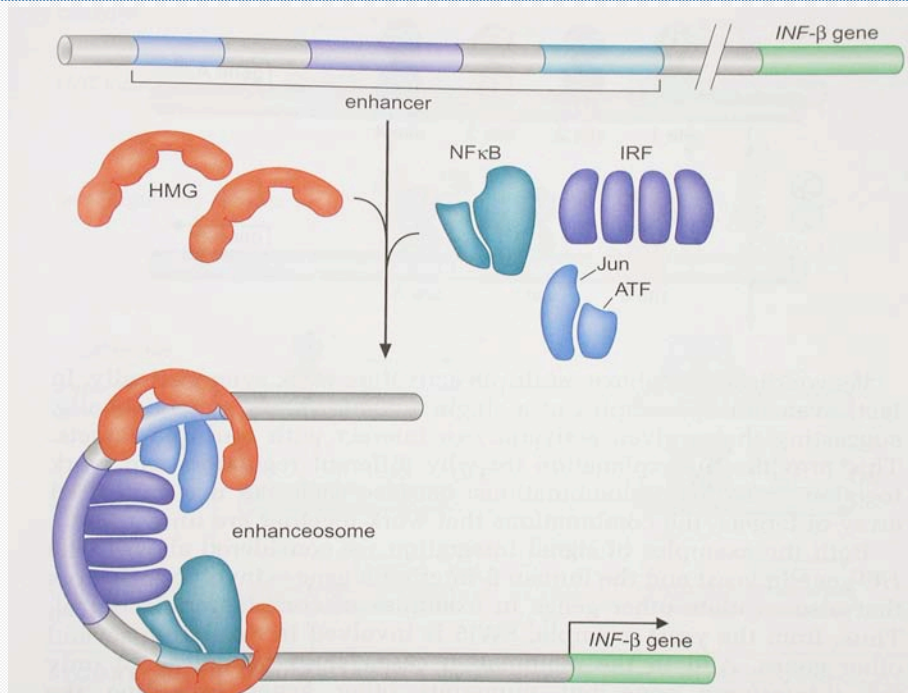


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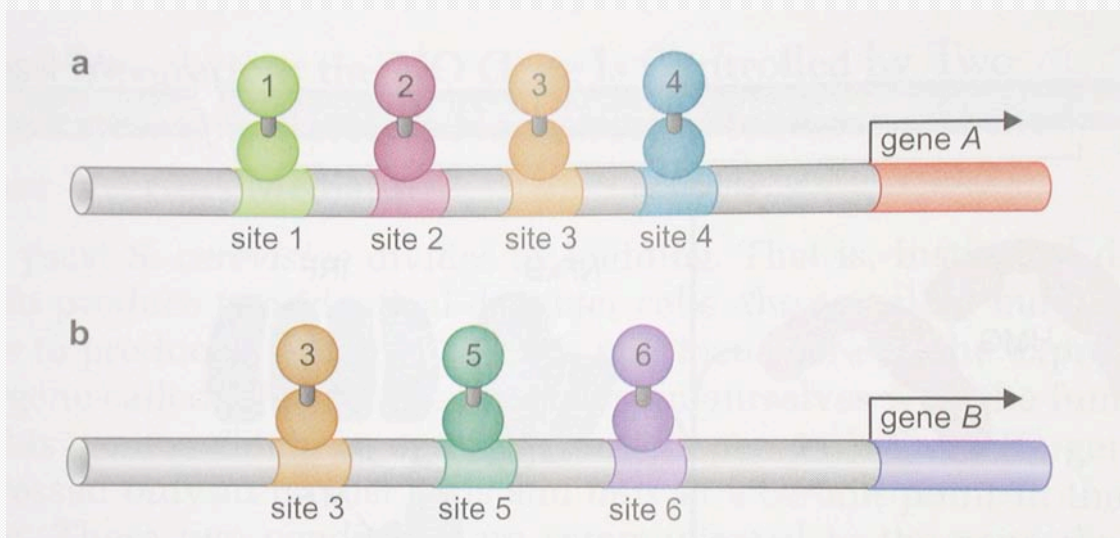


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Kombinatorische Regulation

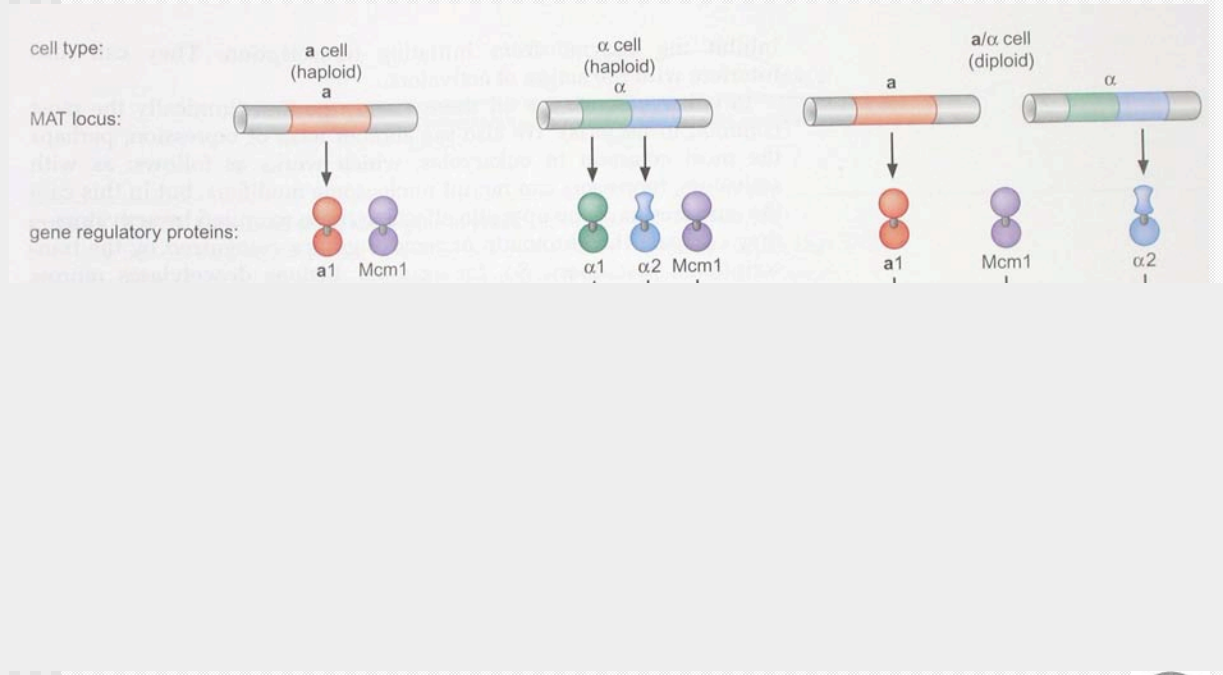


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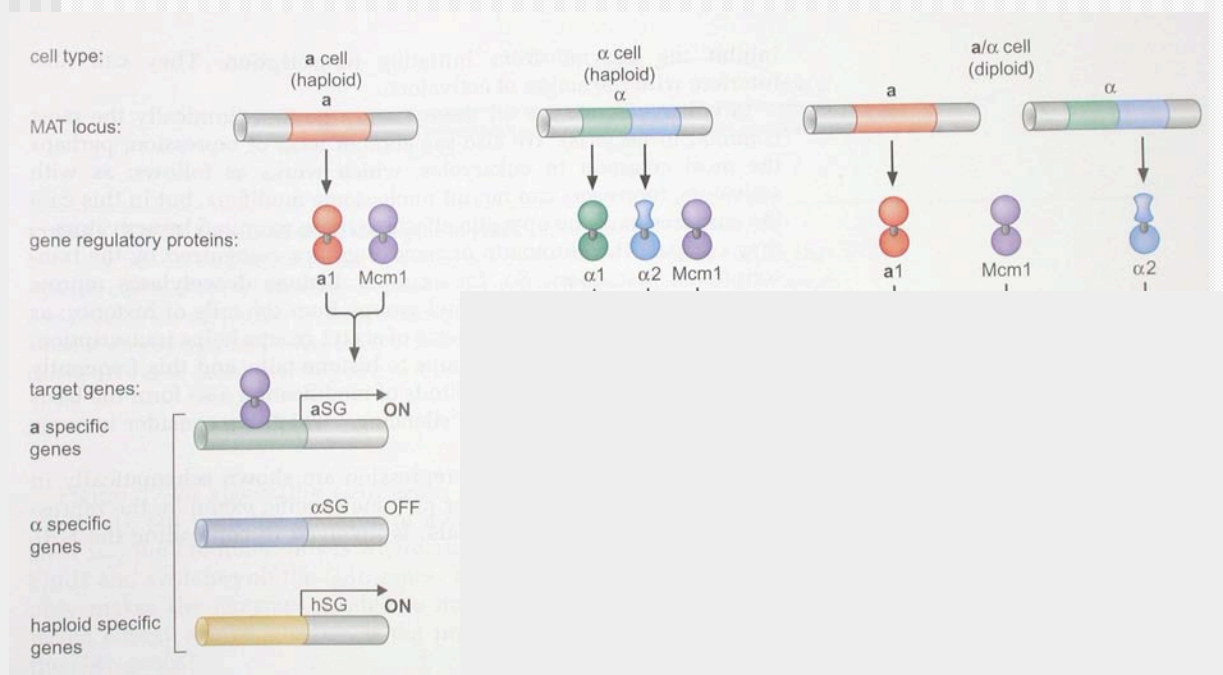
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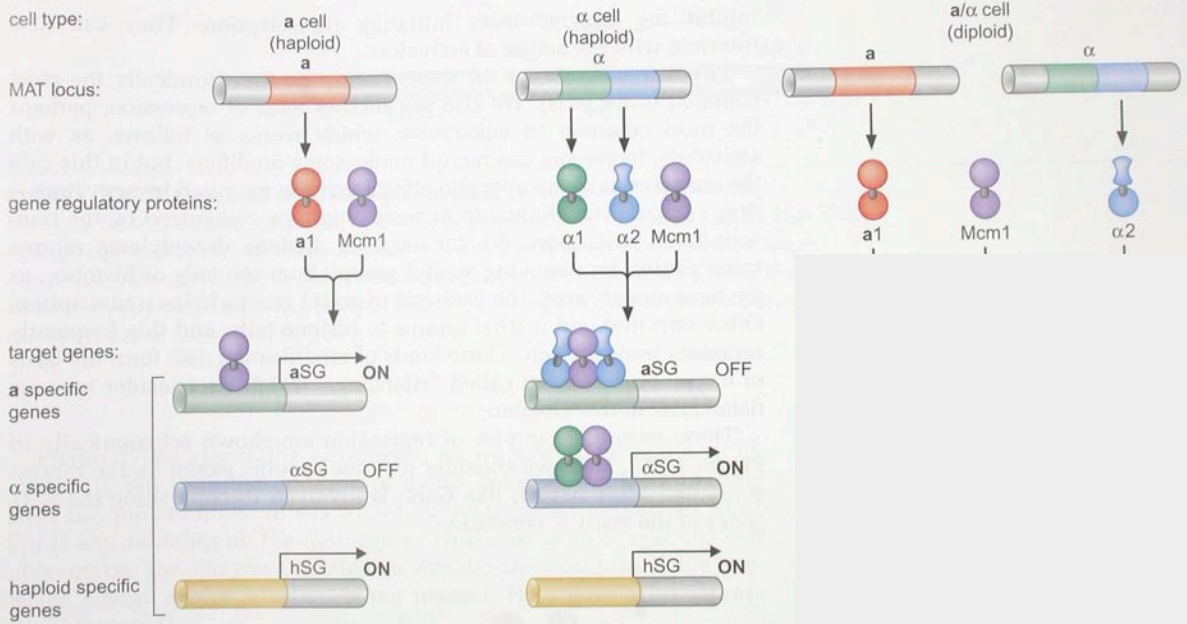
Kombinatorische Regulation in Hefe



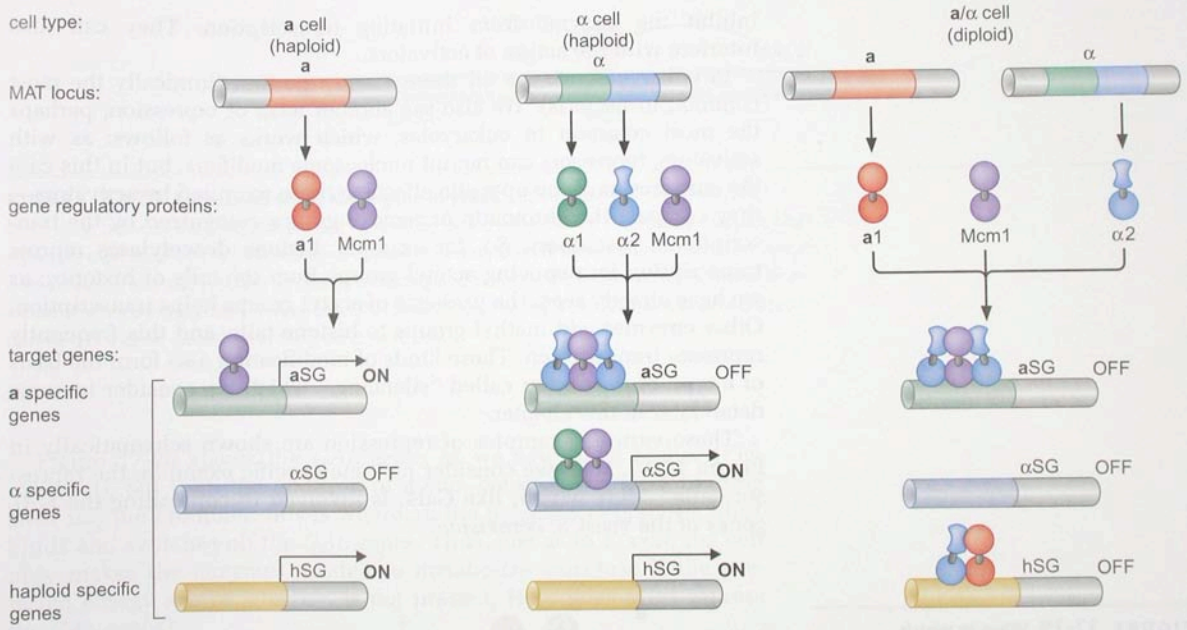
Kombinatorische Regulation in Hefe



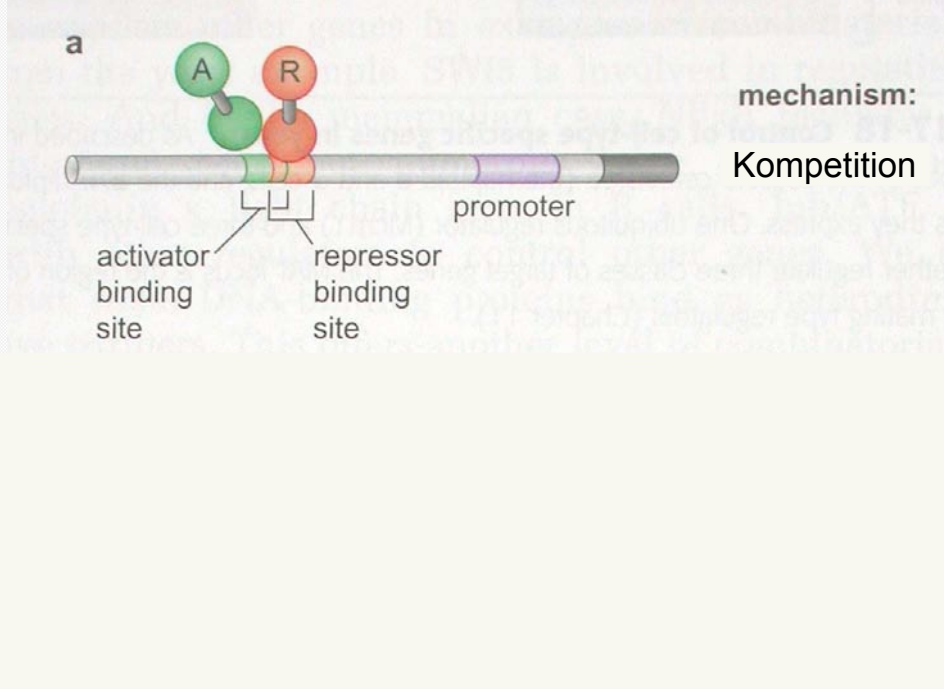
Kombinatorische Regulation in Hefe



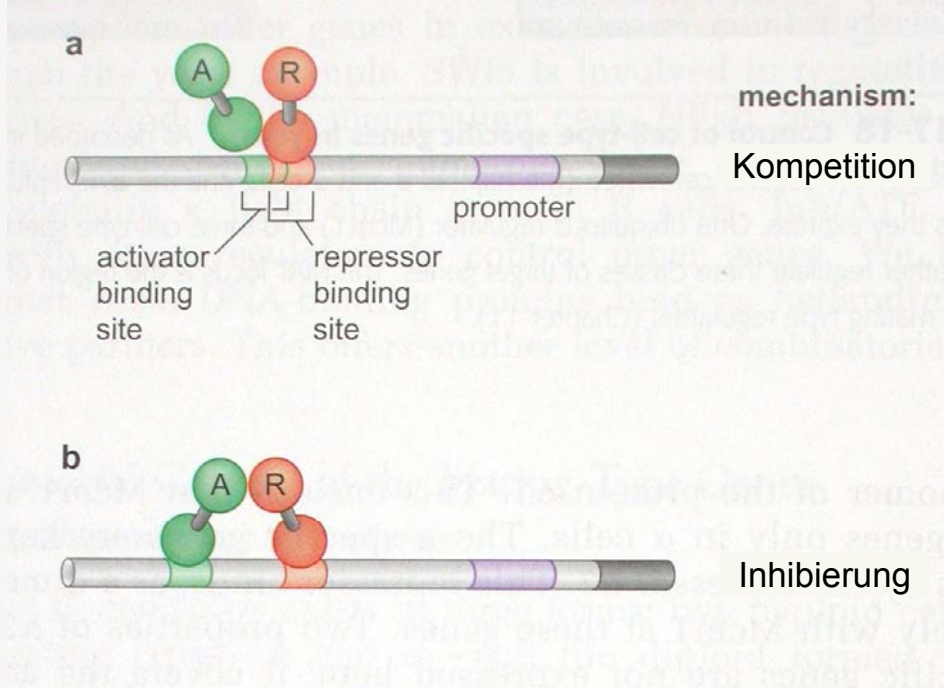
Kombinatorische Regulation in Hefe



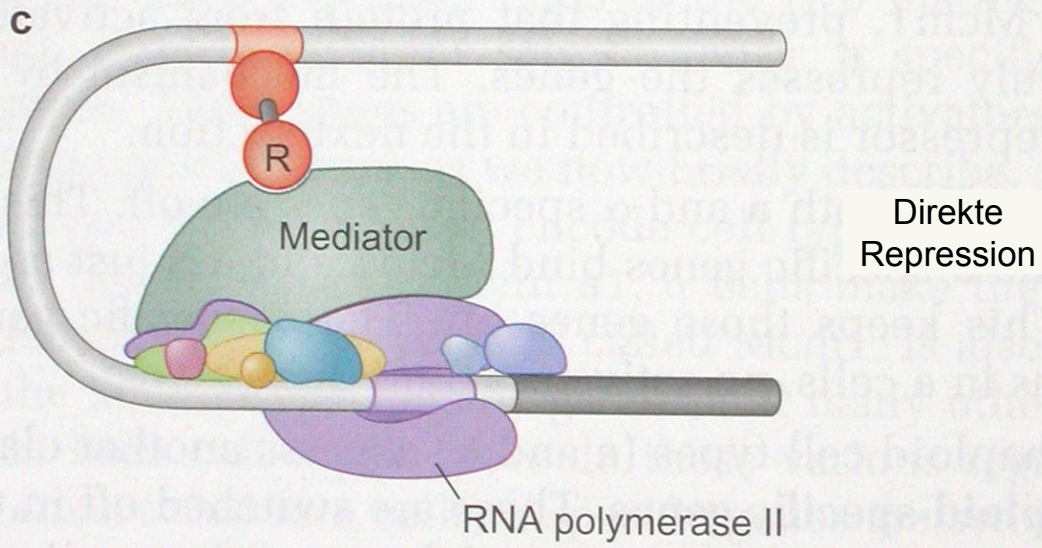
Mechanismen der Repression



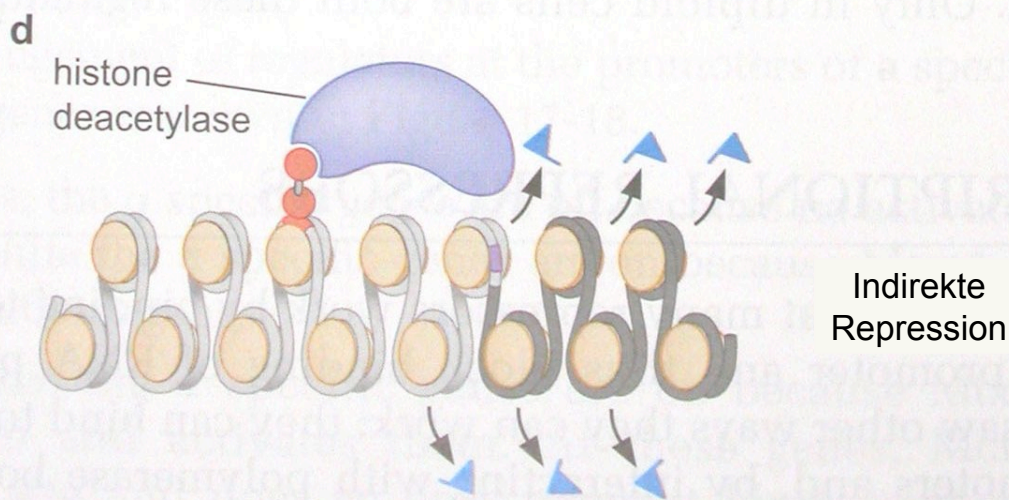
Mechanismen der Repression



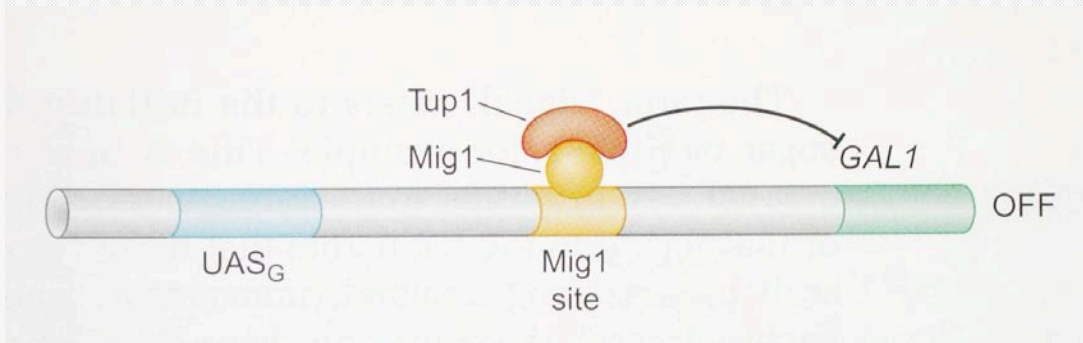
Direkte Repression



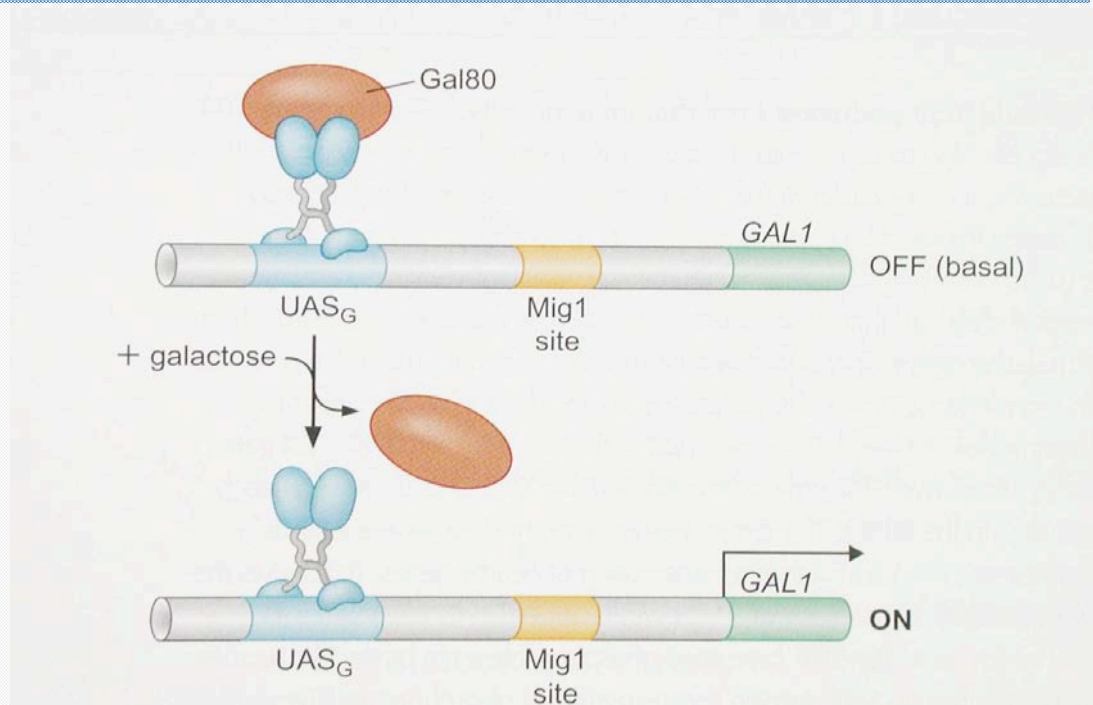
Repression durch Histon - Deacetylierung



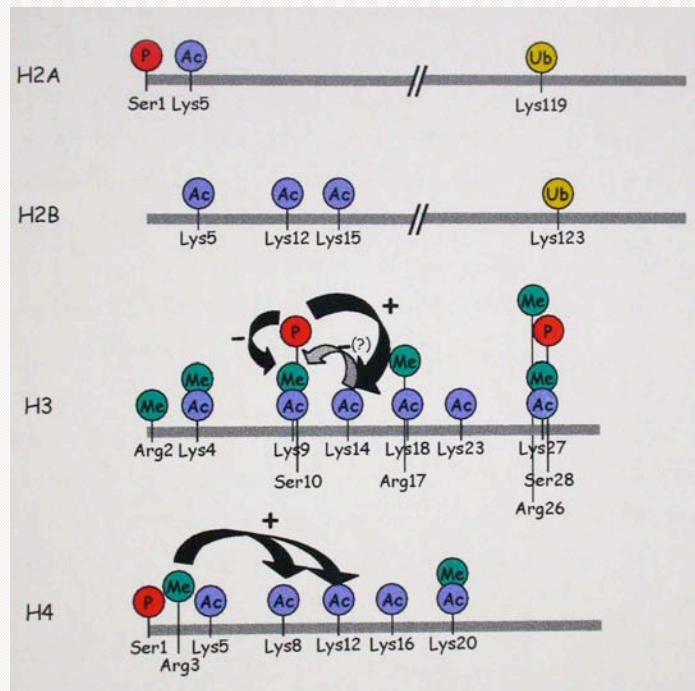
Repression von GAL1 in Gegenwart von Glukose



Repression von GAL1 in Abwesenheit von Glukose und Galactose



Der Histon - Code

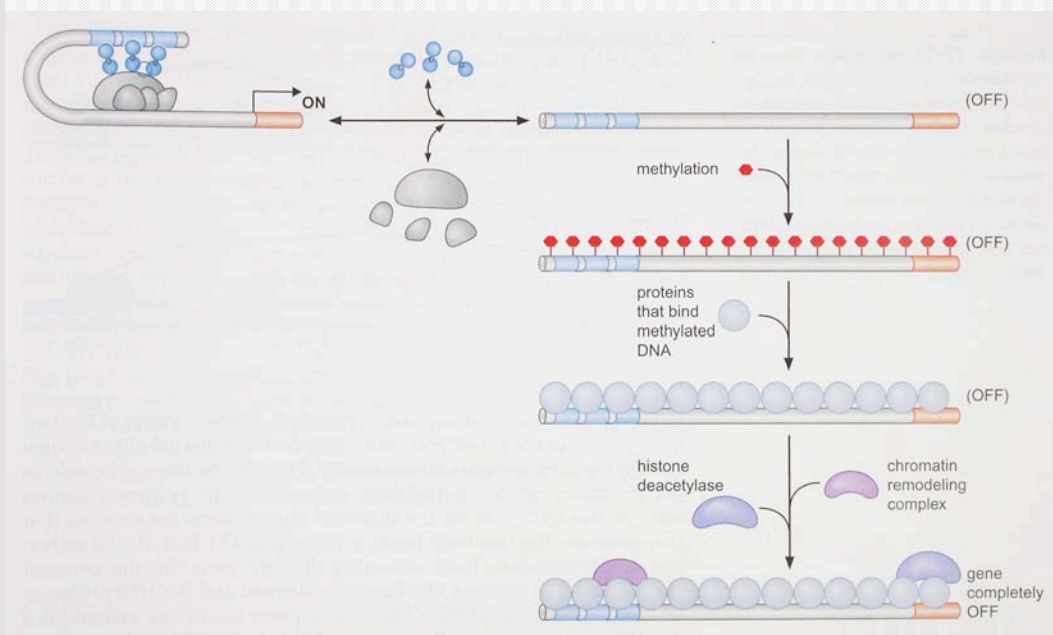


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DNA Methylierung

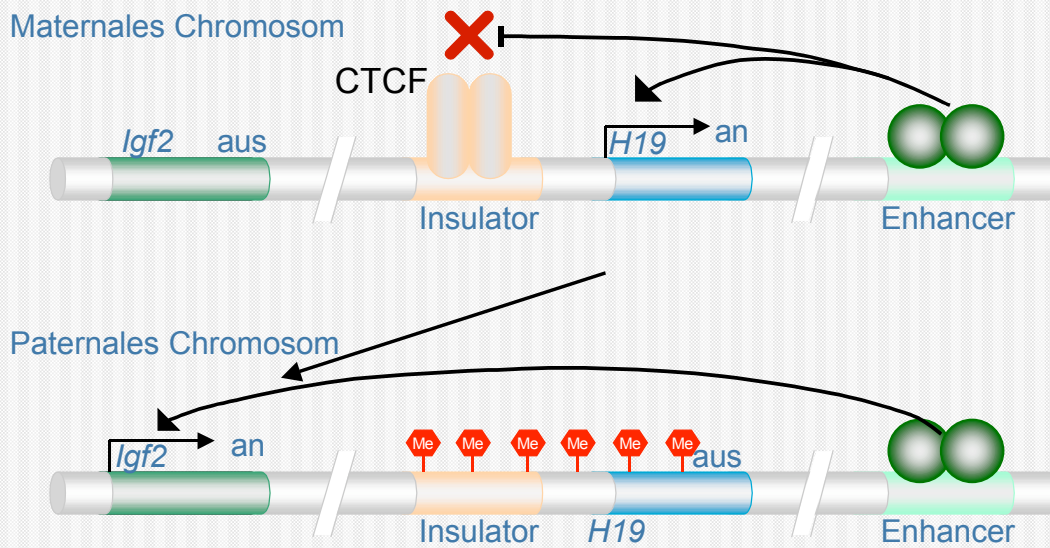


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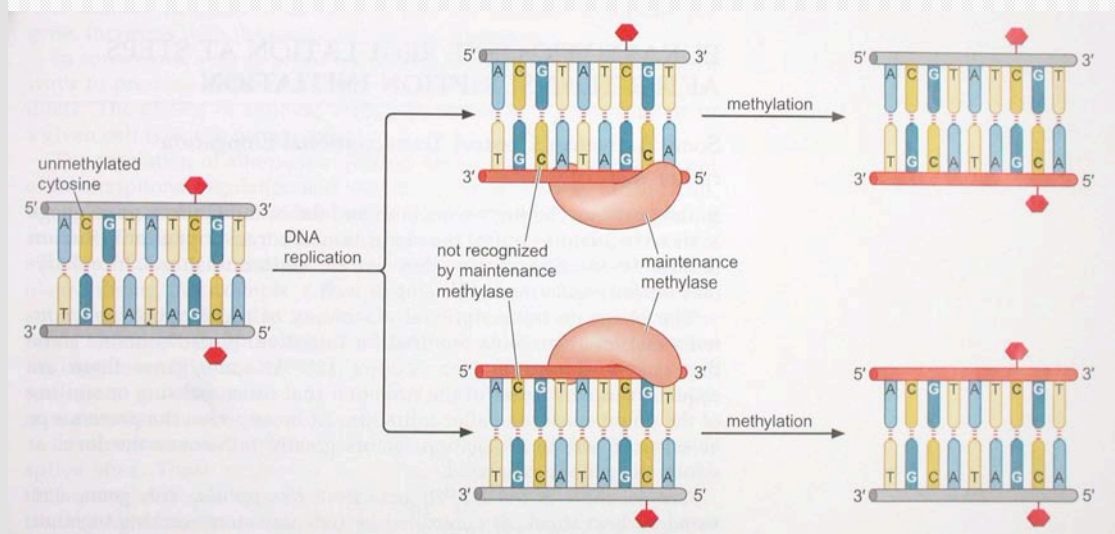
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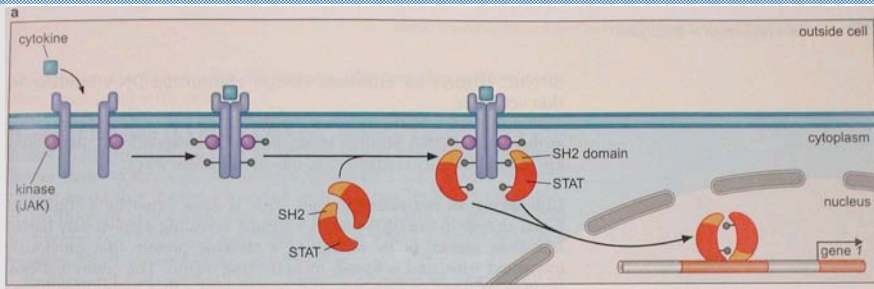
Imprinting



Vererbung der Methylierungen

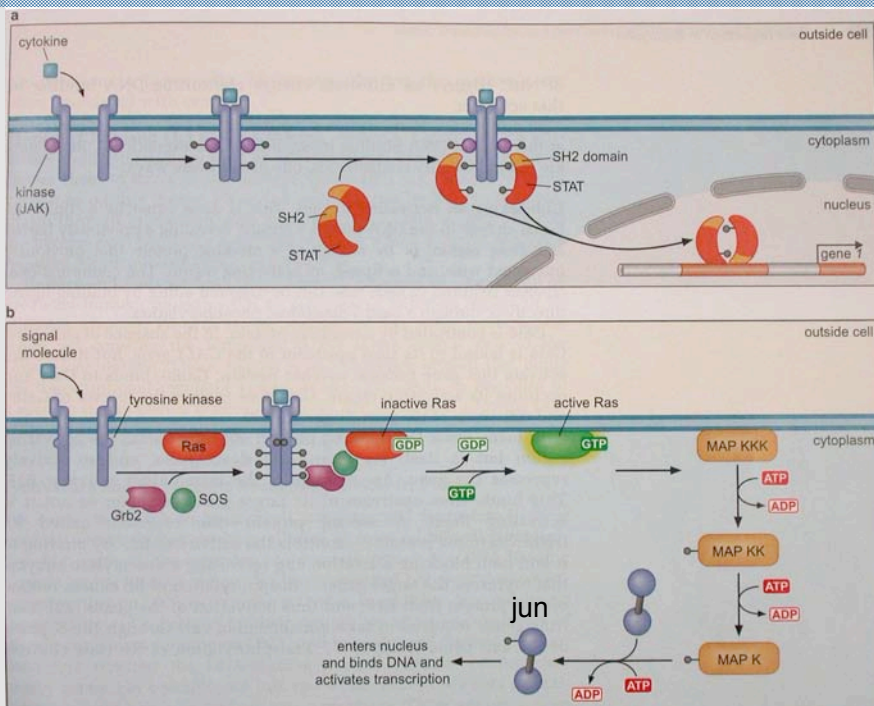


Signaltransduktion



STAT

Signaltransduktion

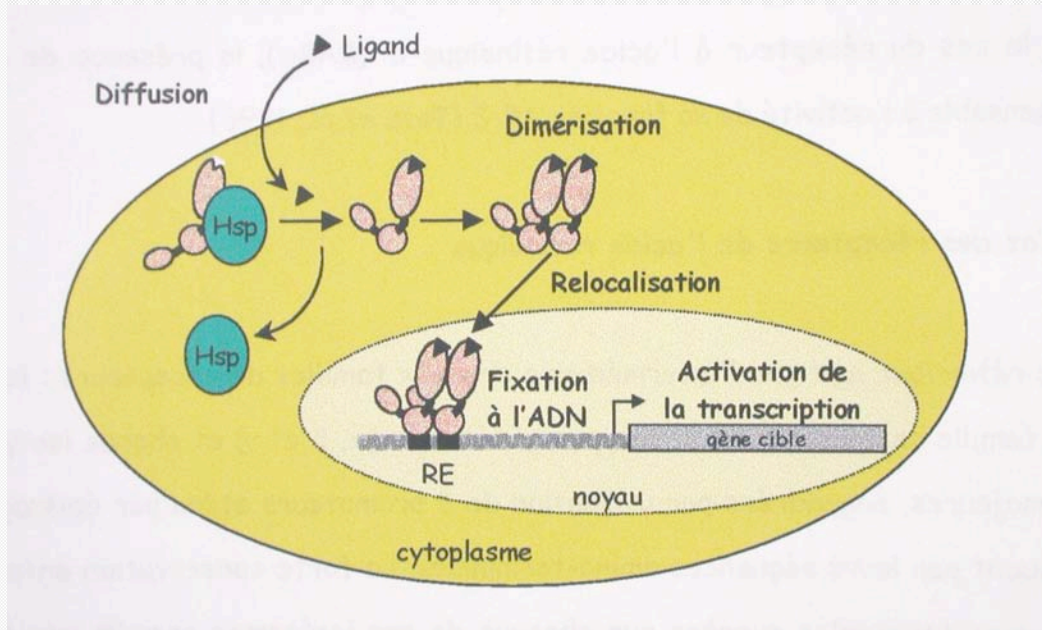


STAT

Ras



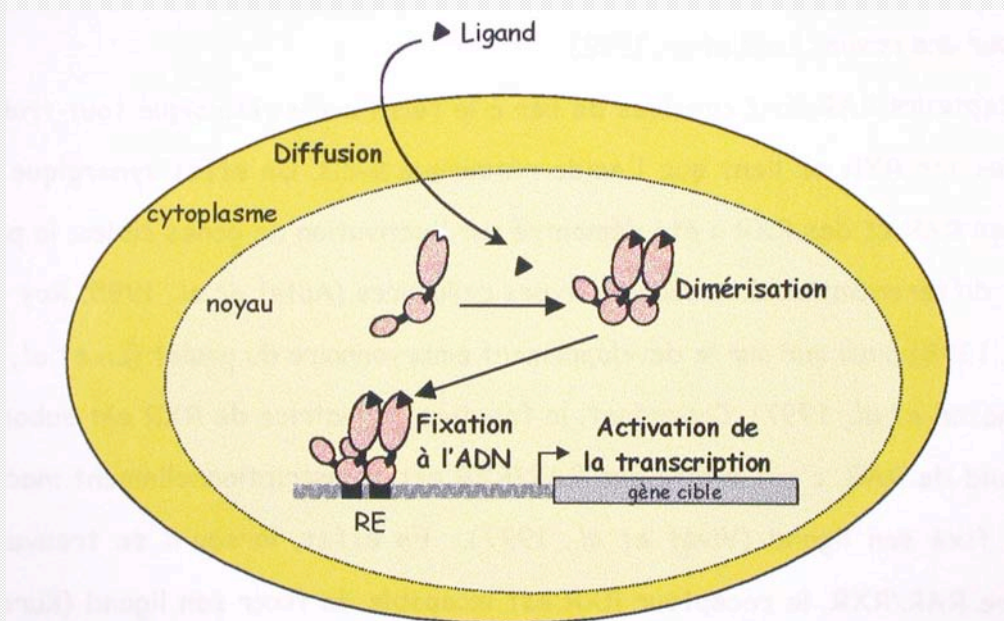
Signaltransduktion: Steroid Hormon Rezeptoren



z.B.: Estrogen-Rezeptor, Androgen-Rezeptor



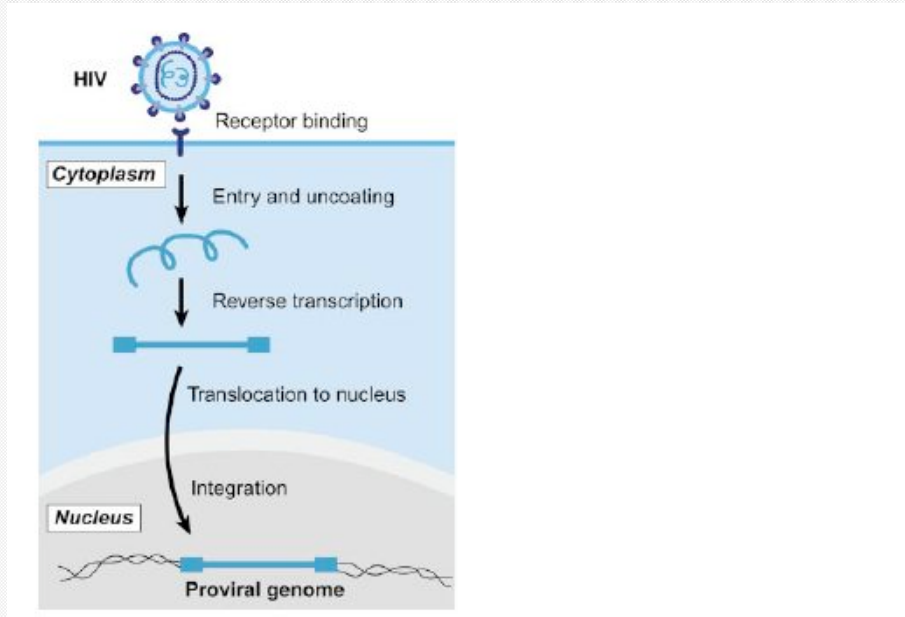
Kern - Rezeptoren



z.B.: Retinolsäure-Rezeptor α und β



Genregulation nach Transkriptions-Initiation: Das TAT-TAR - System

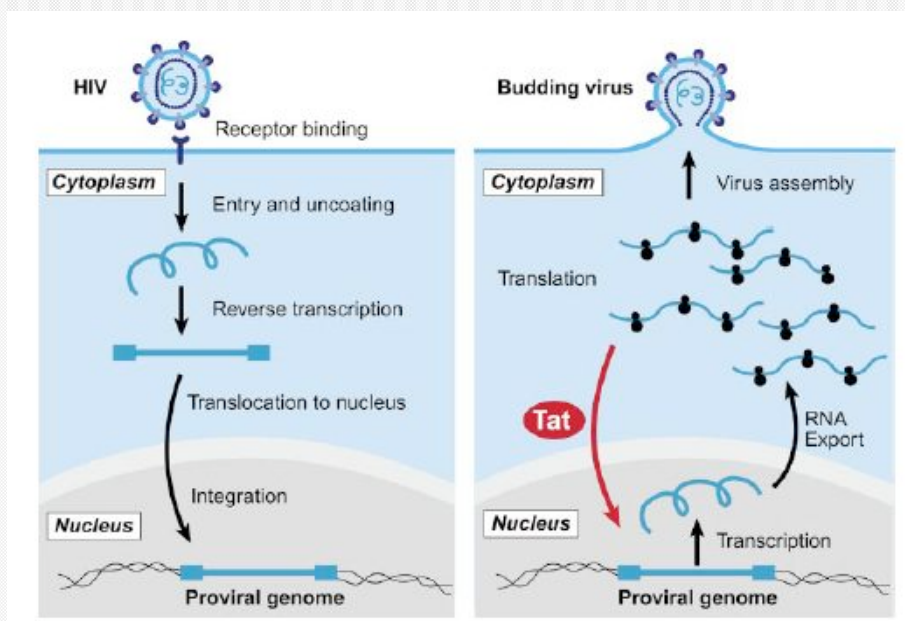


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Genregulation nach Transkriptions-Initiation: Das TAT-TAR - System

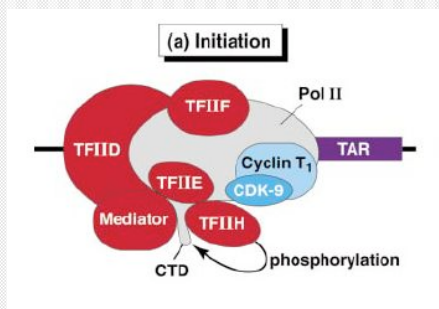
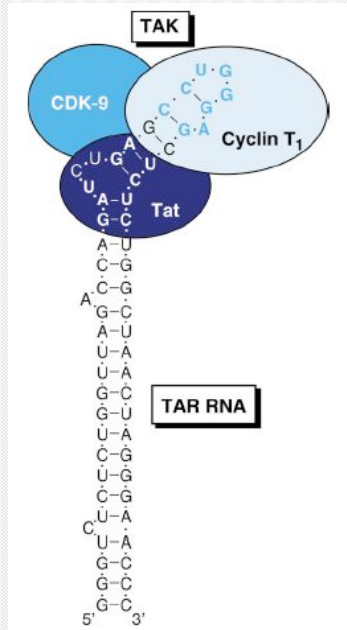


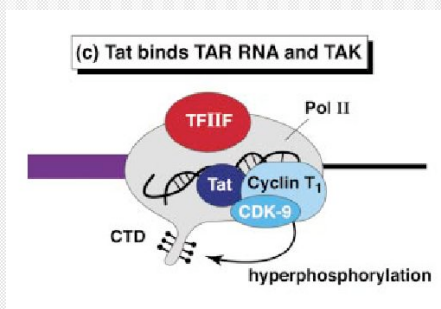
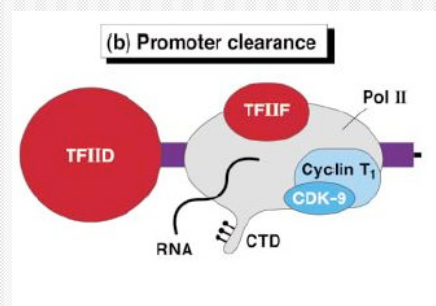
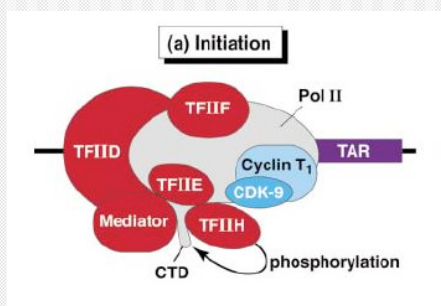
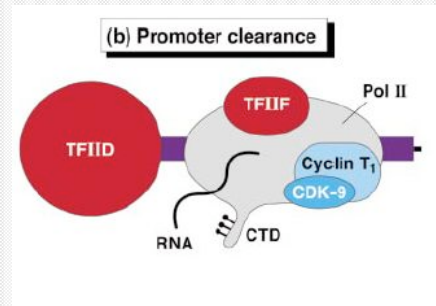
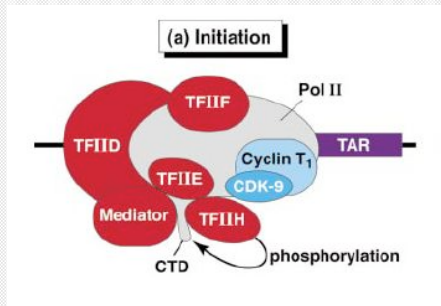
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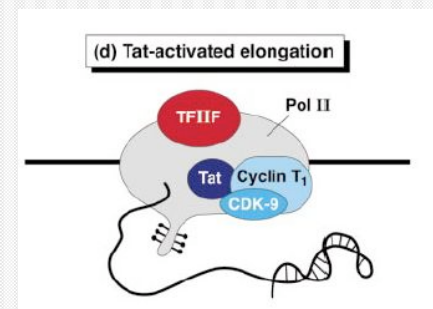
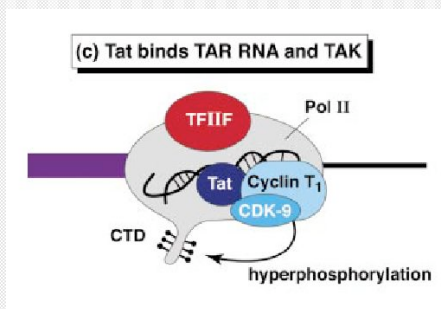
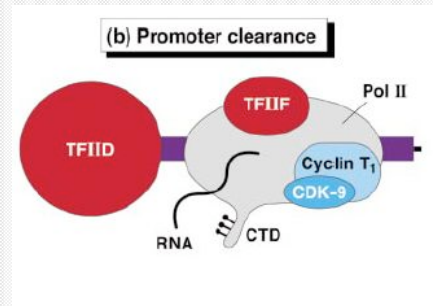
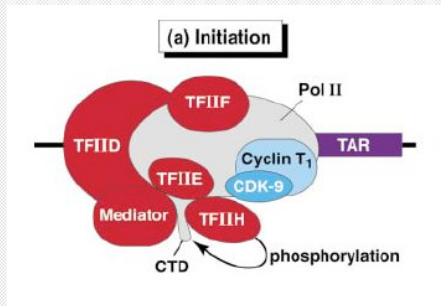
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TAT-TAR als eukaryotisches Antiterminationssystem





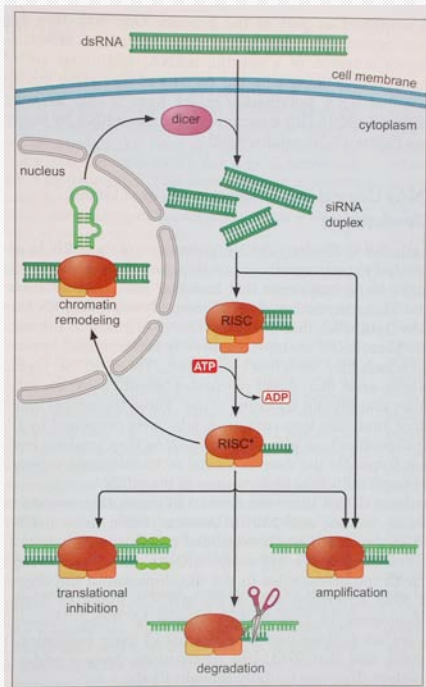


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Genregulation nach Trx.-Initiation: RNA interference



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