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Targeting lysine acetylation in inflammatory lung diseases

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Propositions

belonging to the thesis

Targeting lysine acetylation in inflammatory lung diseases

by Thea van den Bosch

1. Targeting lysine acetylation is a promising strategy in the development of alternative therapies for inflammatory lung diseases (*this thesis*).
2. There is an urgent need for more potent and selective histone acetyltransferase inhibitors (*this thesis*). This will allow for a further investigation of the roles of (individual) histone acetyltransferases in inflammatory lung diseases, and for further exploring the potential of histone acetyltransferase inhibitors as novel therapeutics for inflammatory lung diseases.
3. Isoform-selective histone deacetylase inhibitors attenuate inflammatory responses in models for chronic obstructive pulmonary disease (COPD) (*this thesis*).
4. Numerous studies focus on effects of histone deacetylase inhibitors on histone acetylation, however, effects on acetylation of transcription factors such as NF- κ B are also particularly important (*this thesis*).
5. The development of histone deacetylase inhibitors will progress through better characterizations of their targets and specificities. This will also drive the further development of histone deacetylase inhibitors as potential therapeutics for inflammatory lung diseases (*my view*).
6. Cellular processes involved in inflammatory lung diseases can be crucially controlled by (a set of) specific histone deacetylases or histone acetyltransferases. Even though considerable steps have already been made, further research is needed to characterize which histone acetyltransferases or histone deacetylases need to be targeted for the treatment of inflammatory lung diseases (*my view*).

Stellingen

behorende bij het proefschrift

Targeting lysine acetylation in inflammatory lung diseases

door Thea van den Bosch

1. Het targetten van lysine acetylering is een veelbelovende strategie in de ontwikkeling van alternatieve behandelmethoden voor inflammatoire longziekten (*dit proefschrift*).
2. Er is een dringende behoefte aan histon acetyltransferase remmers die nog krachtiger en selectiever zijn (*dit proefschrift*). Hiermee kan men de rol van (individuele) histon acetyltransferases bij inflammatoire longziekten verder in kaart brengen, en verder onderzoek doen naar histon acetyltransferase remmers als potentiële nieuwe therapeutica voor inflammatoire longziekten.
3. Isoform selectieve histone deacetylase remmers verminderen ontstekingsreacties in modelsystemen voor chronisch obstructive pulmonary disease (COPD) (*dit proefschrift*).
4. Veel studies hebben zich gericht op de effecten van histon deacetylase remmers op histon acetylering, maar de effecten op transcriptiefactoren, zoals NF- κ B, zijn ook met name van belang (*dit proefschrift*).
5. De ontwikkeling van histon deacetylase remmers zal vooruitgaan door het beter in kaart brengen van de targets en specificiteiten van deze remmers. Dit zal ook de verdere ontwikkeling van histon deacetylase remmers als potentiële therapeutica voor inflammatoire longziekten aandrijven (*mijns inziens*).
6. Cellulaire processen betrokken bij inflammatoire longziekten kunnen cruciaal worden gereguleerd door (een set) van specifieke histon deacetylases of histon acetyltransferases. Hoewel er al aanzienlijke stappen zijn gemaakt, is verder onderzoek nodig om in kaart te brengen welke histon acetyltransferases en histon deacetylases moeten worden getarget voor toepassingen in de behandeling van inflammatoire longziekten (*mijns inziens*).