technology offer

GENERAL STRATEGY TO REDUCE GPCR RELATED OFF-TARGET EFFECTS

Scientists from Innsbruck University, Austria identified a novel and highly conserved mechanism how two activated GPCR receptor pathways functionally interact (*Nat. Commun.* **2**, 598 (2011)). The presented invention concerns the use of peptides and small molecules to reduce undesired OFF-target effects of lead compounds targeting diversified and crucially-regulated GPCR cascades.

Background

GPCRs are accessible and frequently used targets to treat diseases such as cancer, memory disorders or heart failures. Pharmaceutical companies aim to identify highly specific compounds with high efficacy which target aberrantly acting enzyme or signalling pathways. However, during such drug discovery efforts most of the identified lead compounds suffer from lack of efficacy or they act on more than one distinct signalling cascade.

Technology

We present a strategy using a patented selection of peptides and bioactive small-molecules

1) to identify OFF-target effects and

2) to address these undesired features of GPCR targeting lead compounds.

3) Synergistic combinations of target-oriented compounds and our peptide / small molecules bear the chance to improve the compound efficacy or to reduce undesired and in some cases fatal off-target effects.

Benefits

- Increase of efficacies of GPCR lead compounds
- De-risk and acceleration of drug discovery process by identification of GPCR related OFF-target effects

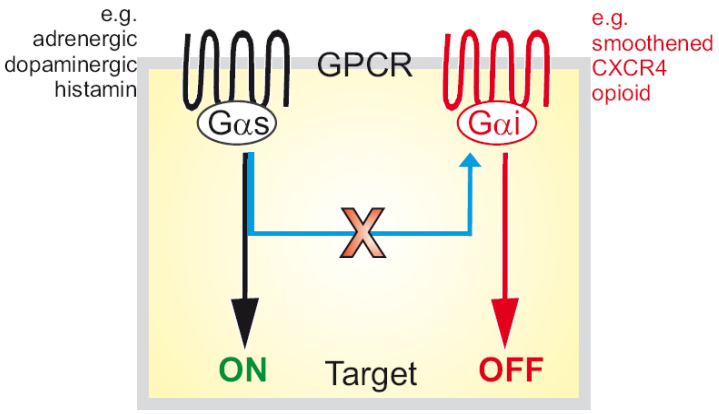
Status of the Technology

- Peptide reduces OFF-target effects
- Small molecules are currently tested in cell culture

Potential Application

- Every Gαs or Gαi-coupled receptor pathway e.g.:
- Cancer [Smoothened, CXCR4]
- Memory disorders [cAMP/phosphodiesterase related]
- Inflammation [chemokine receptors]
- Heart failure [adrenergic receptors]

etc.



IP Position

Patent pending in EP, PCT

Priority date: 19.12.2011

Owner: Innsbruck University

Our Reference: H110016

Licensing conditions

Exclusive or non exclusive License agreement

Cooperation Options

Development partnership

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