

Ervaringen met Team-Based Learning binnen het Radboudumc curriculum

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Achtergrond

In september 2015 is het Radboudumc gestart met een nieuw curriculum voor studenten Geneeskunde en Biomedische Wetenschappen dat o.a. gestoeld is op zelfsturend, samenwerkend en context-gerelateerd leren. Aangezien deze doelstellingen ook worden nagestreefd bij de activerende werkvorm Team-Based Learning (TBL)¹, hebben wij eind 2014 reeds ervaring opgedaan met TBL in het blok 'Cellular communication in health and disease', waaraan 40 masterstudenten Biomedische Wetenschappen deelnamen. De ervaringen van de studenten met twee TBL sessies zijn vastgelegd middels groepsinterviews. De transcripten van deze interviews zijn kwalitatief geanalyseerd, lettend op de volgende aspecten: samenwerken leren, toetsing, vaardigheden en kennisverwerving.

Opzet

Individual readiness assurance test (iRAT)

Educatief/beoordelend

- Binding of a ligand to a GPCR induces a series of events. Which of the following events is the first to occur?
 - change in the conformation of the GPCR
 - activation of the alpha subunit
 - hydrolysis of GTP to GDP
- Signaling involves the activation of one or more enzymes. The alpha subunit of a G protein has an enzyme activity. Which one?
 - adenylylase
 - GTPase
 - phospholipase
 - protein kinase
- Inactivation of a G protein can be modulated by a 'Regulator of G protein Signaling' protein. Such an RGS acts by stimulating the:
 - association of the alpha subunit with the beta and gamma subunits
 - exchange of GTP for GDP
 - hydrolysis of GTP
- The concentration of cyclic AMP is an important mediator of GPCR signaling. cAMP is synthesized from:
 - 5'-AMP
 - ADP
 - ATP
- G proteins are the targets for some medically important bacterial toxins. Cholera toxin causes diarrhea by the irreversible activation of a:
 - inhibitory G protein
 - stimulatory G protein
- In most cells, cyclic AMP exerts its effect through protein kinase A (PKA). cAMP does this by inducing the:
 - ADP ribosylation of the catalytic subunit of PKA
 - dissociation of the catalytic subunit of PKA from the regulatory subunit
 - phosphorylation of a cyclic AMP response element
 - release of PKA from its anchoring proteins

Team (5p) readiness assurance test (tRAT)

Educatief/beoordelend

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Team application (tAPP)

Educatief/beoordelend

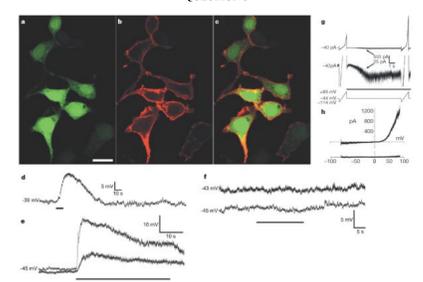


Figure: The DNA encoding melanopsin and the DNA encoding GFP were cloned in an expression vector, such that two separate proteins could be expressed. This vector was transfected into HEK293 cells stably expressing TRPC3 (receptor-operated non-specific cation channel). Melanopsin was detected with a red fluorescent antibody. a-c: protein expression (GFP signal in green) d-f: membrane potential recordings of transfected cells

Q1: What do you see in a, b, and c?
Q2: What do you see in d and e?
Q3: no 11-cis-retinal, still responsiveness. Why?

Ervaringen

Studenten:

- iRAT: studenten bereiken gelijk kennisniveau
- Kleine groepen: participatie omhoog
- tRAT/tAPP: sneller aanspreken op inzet/gedrag
- antwoorden uitleggen aan collega-studenten leidt tot beter begrip

Docenten:

- Kleine groepen: studenten zijn zeer intensief bezig met de stof
- tRAT/tAPP: door aantal en niveau van vragen kan groepsproces in geding komen
- Samenwerking: behoeft expliciet aandacht; studenten zien iemands samenwerkingscapaciteiten als een vaststaand iets i.p.v. leerbaar
- Discussiepunten: samenstelling groepen; ruimtes; multiple choice vragen; internetgebruik

Implicaties voor de praktijk

iRAT

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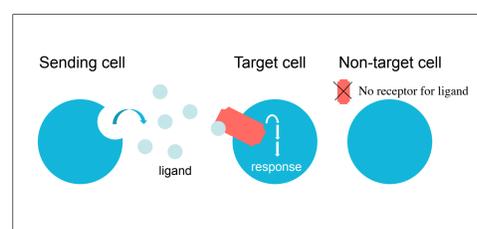
Educatief

tRAT

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Aandacht groepsproces middels peer evaluation

Concept mapping (klassikaal)



Team application

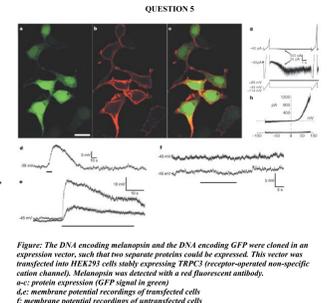


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