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Universiteit Leiden



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Author: Rian, Hanan

Title: Functions of P38 and ERK kinases in zebrafish early development

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Stellingen

Behorende bij het proefschrift

Functions of P38 and ERK kinases in zebrafish early development

1. Specific amino-acid substitutions can increase the kinetic activity of zebrafish ERK2. (this thesis)
2. All four P38 MAPK are expressed in the developing brain of the zebrafish. (this thesis)
3. P38 α and ERK2 signalling is essential for expression of genes functional in zebrafish epiboly or morphogen pathways important for gastrulation. (this thesis)
4. P38 α regulates expression of many ribosomal proteins including variants causing cancer predisposition with recessive mutations. (this thesis)
5. P38 α maintains P53 protein stability after DNA damage of the zebrafish embryo. (this thesis)
6. ERK2 can be considered as the MAPK prototype to investigate how signalling dynamics is translated into cellular behaviour.
7. House-keeping genes, normally involved in basic cell maintenance, can be engaged in stress signalling and are therefore not always suitable for use as internal standards for mRNA Quantification.
8. High throughput genome technologies will soon replace microarray technology.
9. Mass spectrometry based phosphoproteomics and gene expression profiling can be combined using a system biology approach to understand the signal transduction towards the nucleus.
10. The ink of the scholar is more holy than the blood of the martyr- Prophet Muhammad (pbuh).