HelmholtzZentrum münchen
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Catabolism of glucocorticoids – novel pathways for stress reduction in zebrafish



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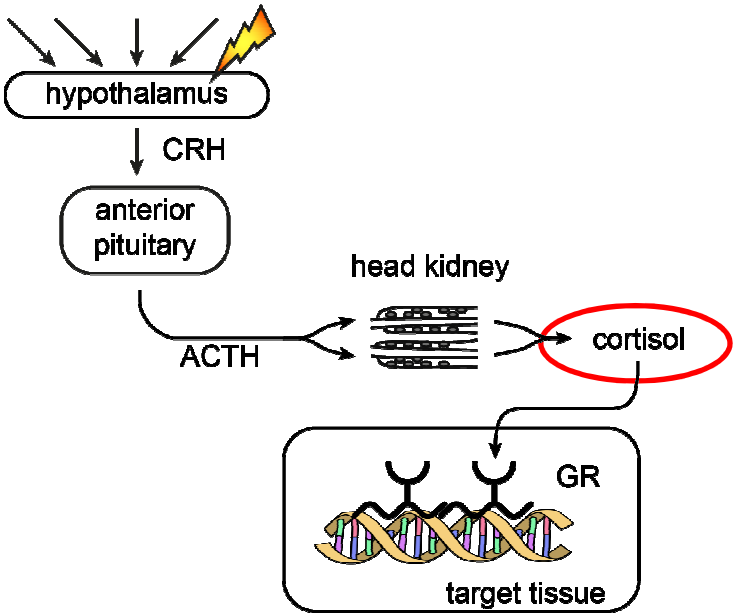
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Stress and glucocorticoids

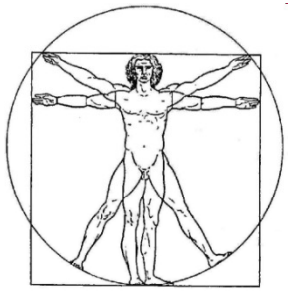
stress = a state of threatened homeostasis

stressors can be > physical/social; > acute/chronic; > actual/imagined

hypothalamus-pituitary-
interrenal (HPI) axis:



drawn after Alsop & Vijayan 2009



Cortisol functions analogical in human and fish

- metabolic regulation
- stimulation of gluconeogenesis
- suppression of immune system, reduction of inflammation
- development
- (sea water adaptation)



CRH, corticotropin-releasing hormone
ACTH, adrenocorticotropic hormone
GR, glucocorticoid receptor