

Stress response is triggered by a number of factors, which, depending on the type of response they generate, involve different brain structures. These structures then relay the information to the paraventricular nucleus of hypothalamus (PVN), which is the main integration center for information about the imbalance of homeostasis induced by stressors. If it meets a sufficient number of excitatory signals, the PVN activates the hypothalamic pituitary adrenal axis, which ultimately triggers the secretion of stress hormones glucocorticoids, which then act back on the brain. This action is influenced by several factors, mainly the presence of local metabolism of glucocorticoids. Local metabolism is provided by the enzymes 11-hydroxysteroid dehydrogenases, which can locally activate or deactivate the hormone molecules and thus amplify or attenuate their effects.