Tipo	Periódico
Título	The Pharmacological Action of Kaempferol in Central Nervous System Diseases: A Review
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Programa/Curso (s)	Programa de Pós-Graduação Stricto Sensu em Ciências da Saúde
DOI	10.3389/fphar.2020.565700
Assunto (palavras chaves)	flavonoids, kaempferol, Alzheimer, Parkinson, ischemia stroke, epilepsy, glioblastoma
Idioma	Inglês
Fonte	Título do periódico: Frontiers in Pharmacology ISSN: 1663-9812 Volume/Número/Paginação/Ano: v. 11, p. 565700, 2020
Data da publicação	13 January 2021
Formato da produção	Digital https://doi.org/10.3389/fphar.2020.565700
Resumo	Kaempferol (KPF) is a flavonoid antioxidant found in fruits and vegetables. Many studies have described the beneficial effects of dietary KPF in reducing the risk of chronic diseases, especially cancer. Nevertheless, little is known about the cellular and molecular mechanisms underlying KPF actions in the central nervous system (CNS). Also, the relationship between KPF structural properties and their glycosylation and the biological benefits of these compounds is unclear. The aim of this study was to review studies published in the PubMed database during the last 10 years (2010–2020), considering only experimental articles that addressed the isolated cell effect of KPF (C15H10O6) and its derivatives in neurological diseases such as Alzheimer's disease, Parkinson, ischemia stroke, epilepsy, major depressive disorder, anxiety disorders, neuropathic pain, and glioblastoma. 27 publications were included in the present review, which presented recent advances in the effects of KPF on the nervous system. KPF has presented a multipotential neuroprotective action through the modulation of several proinflammatory signaling pathways such as the nuclear factor kappa B (NF-kB), p38 mitogen-activated protein kinases (p38MAPK), serine/threonine kinase (AKT), and β-catenin cascade. In addition, there are different biological benefits and pharmacokinetic behaviors between KPF aglycone and its glycosides. The antioxidant nature of KPF was observed in all neurological diseases through MMP2, MMP3, and MMP9 metalloproteinase inhibition; reactive oxygen species generation inhibition; endogenous antioxidants modulation as superoxide dismutase and glutathione; formation and aggregation of beta-amyloid (β-A) protein inhibition; and brain protective action through

	the modulation of brain-derived neurotrophic factor (BDNF), important for neural plasticity. In conclusion, we suggest that KPF and some glycosylated derivatives (KPF-3-O-rhamnoside, KPF-3-O-glucoside, KPF-7-O-rutinoside, and KPF-4′-methyl ether) have a multipotential neuroprotective action in CNS diseases, and further studies may make the KPF effect mechanisms in those pathologies clearer. Future in vivo studies are needed to clarify the mechanism of KPF action in CNS diseases as well as the impact of glycosylation on KPF bioactivity.
Fomento	