

Format: Abstract

Send to

Adv Exp Med Biol. 2016;928:213-244.

Fisetin and Its Role in Chronic Diseases.

Pal HC¹, Pearlman RL¹, Afaq F^{2,3}.

Author information

Abstract

Chronic inflammation is a prolonged and dysregulated immune response leading to a wide variety of physiological and pathological conditions such as neurological abnormalities, cardiovascular diseases, diabetes, obesity, pulmonary diseases, immunological diseases, cancers, and other life-threatening conditions. Therefore, inhibition of persistent inflammation will reduce the risk of inflammation-associated chronic diseases. Inflammation-related chronic diseases require chronic treatment without side effects. Use of traditional medicines and restricted diet has been utilized by mankind for ages to prevent or treat several chronic diseases. Bioactive dietary agents or "Nutraceuticals" present in several fruits, vegetables, legumes, cereals, fibers, and certain spices have shown potential to inhibit or reverse the inflammatory responses and several chronic diseases related to chronic inflammation. Due to safe, nontoxic, and preventive benefits, the use of nutraceuticals as dietary supplements or functional foods has increased in the Western world. Fisetin (3,3',4',7-tetrahydroxyflavone) is a dietary flavonoid found in various fruits (strawberries, apples, mangoes, persimmons, kiwis, and grapes), vegetables (tomatoes, onions, and cucumbers), nuts, and wine that has shown strong anti-inflammatory, anti-oxidant, anti-tumorigenic, anti-invasive, anti-angiogenic, anti-diabetic, neuroprotective, and cardioprotective effects in cell culture and in animal models relevant to human diseases. In this chapter, we discuss the beneficial pharmacological effects of fisetin against different pathological conditions with special emphasis on diseases related to chronic inflammatory conditions.

KEYWORDS: Allergy; Cancer; Cardiovascular diseases; Chronic diseases; Cytokines; Diabetes; Fisetin; Inflammation; Neurological diseases; Nutraceuticals; Obesity; Pulmonary diseases; Transcription factors

PMID: 27671819 DOI: [10.1007/978-3-319-41334-1_10](https://doi.org/10.1007/978-3-319-41334-1_10)

[Indexed for MEDLINE]



Publication types, MeSH terms, Substances, Grant support

LinkOut - more resources

PubMed Commons

0 comments

[PubMed Commons home](#)

[How to join PubMed Commons](#)

Full text links



Save items

Add to Favorites

Similar articles

Review The flavonoid fisetin as an anticancer agent targeting the growth signaling path... [Eur J Pharmacol. 2016]

Review Dietary flavonoid fisetin: a novel dual inhibitor of PI3K/Akt and mTOR for prost... [Biochem Pharmacol. 2012]

Review Anti-inflammatory activity of natural dietary flavonoids. [Food Funct. 2010]

Review Inhibition of Akt/mTOR signaling by the dietary flavonoid fisetin: a novel dual inhibitor of PI3K/Akt and mTOR for prost... [Anticancer Agents Med Chem. 2013]

Review Bioactive compounds in foods: their role in the prevention of cardiovascular diseases [Am J Med. 2002]

[See reviews...](#)

[See all...](#)

Related information

Articles frequently viewed together

MedGen

PubChem Compound (MeSH Keyword)

Recent Activity

[Turn Off](#) [Clear](#)

Fisetin and Its Role in Chronic Diseases. PubMed

The flavonoid fisetin as an anticancer agent targeting the growth signaling path... PubMed

Dietary flavonoid fisetin: A novel dual inhibitor of PI3K/Akt and mTOR for prost... PubMed

Higher PUFA and n-3 PUFA, conjugated linoleic acid, alpha-tocopherol and iron, but... PubMed

Composition differences between organic PubMed