食品生理学研究室ニュース

New of Laboratory of Food and Physiological Sciences:

Vol. 8. 2-SEP-2019

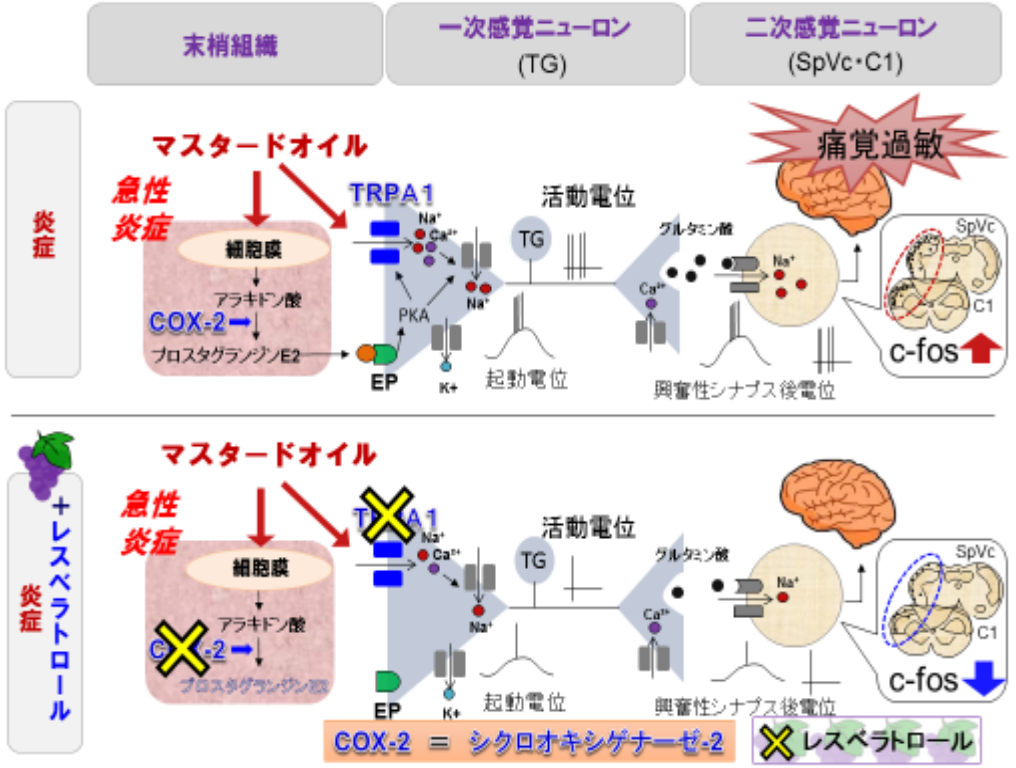
★平成２８年度卒業生「松本康弘君」「小松京平君」の研究成果が神経科学の専門誌"European Journal of Oral Science"に掲載されました!!!

Effect of resveratrol on c-fos expression of rat trigeminal spinal nucleus caudalis and C1 dorsal horn neurons following mustard oil-induced acute inflammation

Matsumoto Y, Komatsu K, Shimazu Y, Takehana S, Syouji Y, Kobayashi A, Takeda M.

Eur J Oral Sci 2017: 125: 338-344.

The dietary constituent, resveratrol, was recently identified as a transient receptor potential ankyrin 1 (TRPA1) antagonist, voltage-dependent sodium ion (Na_+) channel, and cyclooxygenase-2 (COX-2) inhibitor. The aim of the present study was to investigate whether pretreatment with resveratrol attenuates acute inflammation-induced sensitization of nociceptive processing in rat spinal trigeminal nucleus caudalis (SpVc) and upper cervical (C1) dorsal horn neurons, via c-fos immunoreactivity. Mustard oil (MO), a TRPA1 channel agonist, was injected into the whisker pads of rats to induce inflammation. Pretreatment with resveratrol significantly decreased the mean thickness of inflammation-induced edema in whisker pads compared with those of untreated, inflamed rats. Ipsilateral of both the superficial and deep laminae of SpVc and C1 dorsal horn, there were significantly more c-fos immunoreactive SpVc/C1 neurons in inflamed rats compared with naive rats, and resveratrol pretreatment significantly decreased that number relative to untreated, inflamed rats. These results suggest that systemic administration of resveratrol attenuates acute inflammation-induced augmented nociceptive processing of trigeminal SpVc and C1 neurons. These findings support resveratrol as a potential therapeuticagent for use in alternative, complementary medicine to attenuate, or even prevent,acute trigeminal inflammatory pain



ハイライト：当研究室のこれまでの研究で赤ワインの成分で知られるレスベラトロールは慢性炎症性疼痛の緩和効果が判明している。今回、著者らは*c-fos*免疫組織化学法を用いて、レスベラトロールが急性炎症症状と中枢神経系において疼痛伝達に関わるニューロンの活動を広範囲に抑制することを明らかとした。レスベラトロールが急性炎症と付随する疼痛緩和に役立つことが明らかとなり、補完代替医療への知見が新たに加えられた。

★レスベラトロールによる急性炎症性疼痛抑制効果の発現機序（仮説）

急性炎症により生じる、組織で産生される起炎物質であるプロスタグランジン合成酵素(COX-2)と侵害機械刺激受容チャネル(TRPA1)の機能をレスベラトロールは抑制する。その結果、急性炎症における炎症性痛覚過敏を減弱効果があると推察された。