

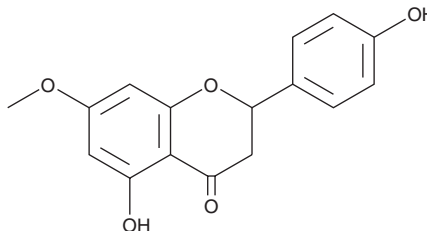
# PRODUCT INFORMATION



## Sakuranetin

Item No. 19761

CAS Registry No.: 520-29-6  
Formal Name: 2,3-dihydro-5-hydroxy-2-(4-hydroxyphenyl)-7-methoxy-4H-1-benzopyran-4-one  
MF: C<sub>16</sub>H<sub>14</sub>O<sub>5</sub>  
FW: 286.3  
Purity: ≥98%  
UV/Vis.: λ<sub>max</sub>: 215, 287 nm  
Supplied as: A crystalline solid  
Storage: -20°C  
Stability: ≥4 years  
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Sakuranetin is supplied as a crystalline solid. A stock solution may be made by dissolving the sakuranetin in the solvent of choice, which should be purged with an inert gas. Sakuranetin is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of sakuranetin in these solvents is approximately 25 and 30 mg/ml, respectively.

Sakuranetin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sakuranetin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Sakuranetin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Sakuranetin is a flavonoid and phytoalexin that has been found in rice and has diverse biological activities.<sup>1-4</sup> It reduces blast fungus mycelium growth *in vitro* and decreases the number of fungal lesions and fungal DNA in blast fungus-infected rice leaves when applied at concentrations of 0.1 and 0.2 mM.<sup>1</sup> Sakuranetin is active against *M. luteus* and *B. subtilis* (MICs = 2 and 0.5 µg/ml, respectively).<sup>2</sup> It is cytotoxic to KB nasopharyngeal carcinoma cells (EC<sub>50</sub> = 10 µg/ml). Sakuranetin (20 mg/kg) reduces alveolar enlargement, collagen and elastic fiber deposition, and bronchoalveolar lavage fluid (BALF) levels of TNF-α, IL-1β, and M-CSF in a mouse model of elastase-induced emphysema.<sup>3</sup> It also reduces collagen fiber deposition and lung inflammation in a mouse model of LPS-induced acute lung injury.<sup>4</sup>

### References

1. Hasegawa, M., Mitsuhashi, I., Seo, S., *et al.* Analysis on blast fungus-responsive characters of a flavonoid phytoalexin sakuranetin; accumulation in infected rice leaves, antifungal activity and detoxification by fungus. *Molecules* **19**(8), 11404-11418 (2014).
2. Orjala, J., Wright, A.D., Behrends, H., *et al.* Cytotoxic and antibacterial dihydrochalcones from *Piper aduncum*. *J. Nat. Prod.* **57**(1), 18-26 (1994).
3. Taguchi, L., Pinheiro, N.M., Olivo, C.R., *et al.* A flavanone from *Baccharis retusa* (Asteraceae) prevents elastase-induced emphysema in mice by regulating NF-κB, oxidative stress and metalloproteinases. *Respir. Res.* **16**(79), 1-15 (2015).
4. Bittencourt-Mernak, M.I., Pinheiro, N.M., Santana, F.P., *et al.* Prophylactic and therapeutic treatment with the flavonone sakuranetin ameliorates LPS-induced acute lung injury. *Am. J. Physiol. Lung Cell Mol. Physiol.* **312**(2), L217-L230 (2017).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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