

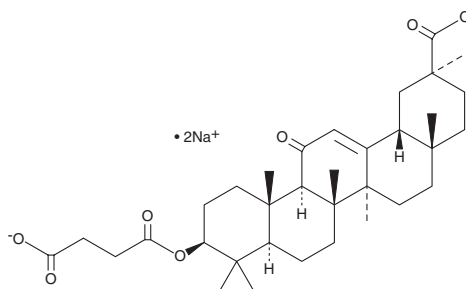
# PRODUCT INFORMATION



## Carbenoxolone (sodium salt)

Item No. 18240

**CAS Registry No.:** 7421-40-1  
**Formal Name:** (3 $\beta$ ,20 $\beta$ )-3-(3-carboxy-1-oxopropoxy)-11-oxo-olean-12-en-29-oic acid, disodium salt  
**MF:** C<sub>34</sub>H<sub>48</sub>O<sub>7</sub> • 2Na  
**FW:** 614.7  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 250 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

Carbenoxolone (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the carbenoxolone (sodium salt) in the solvent of choice, which should be purged with an inert gas. Carbenoxolone (sodium salt) is soluble in the organic solvent ethanol at a concentration of approximately 14 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of carbenoxolone (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of carbenoxolone (sodium salt) in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Carbenoxolone is a derivative of  $\beta$ -glycyrrhetic acid (Item No. 11845), a major metabolite of glycyrrhizin, one of the main constituents of licorice. Similar to  $\beta$ -glycyrrhetic acid and glycyrrhizin, carbenoxolone has been shown to exhibit anti-ulcerative and anti-inflammatory properties.<sup>1</sup> Carbenoxolone inhibits 11 $\beta$ -hydroxysteroid dehydrogenase type 1 (11 $\beta$ -HSD1; Item No. 10007815) conversion of cortisol to cortisone, which contributes to its potential to induce mineralocorticoid hypertension.<sup>2</sup> It is also reported to inhibit 11 $\beta$ -HSD2 conversion of cortisone to cortisol resulting in improved cognitive and neuroprotective effects.<sup>3</sup>

### References

1. Sircus, W. Carbenoxolone sodium. *Gut* **13**(10), 816-824 (1972).
2. Quinkler, M. and Stewart, P.M. Hypertension and the cortisol-cortisone shuttle. *J. Clin. Endocrinol. Metab.* **88**(6), 2384-2392 (2003).
3. Hellmich, H.L., Rojo, D.R., Micci, M.A., et al. Pathway analysis reveals common pro-survival mechanisms of metyrapone and carbenoxolone after traumatic brain injury. *PLoS One* **8**(1), e53230 (2013).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM