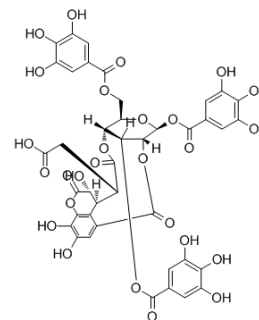


## Chebulinic acid

<b>Cat. No.:</b>	HY-N2033
<b>CAS No.:</b>	18942-26-2
<b>Molecular Formula:</b>	C <sub>41</sub> H <sub>32</sub> O <sub>27</sub>
<b>Molecular Weight:</b>	956.68
<b>Target:</b>	DNA/RNA Synthesis; TGF-beta/Smad; Proton Pump
<b>Pathway:</b>	Cell Cycle/DNA Damage; Stem Cell/Wnt; TGF-beta/Smad; Membrane Transporter/Ion Channel
<b>Storage:</b>	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### BIOLOGICAL ACTIVITY

<b>Description</b>	Chebulinic acid is a potent natural inhibitor of <i>M. tuberculosis</i> DNA gyrase, also can inhibit SMAD-3 phosphorylation, inhibit H <sup>+</sup> K <sup>+</sup> -ATPase activity.
<b>IC<sub>50</sub> &amp; Target</b>	target: <i>M. tuberculosis</i> DNA gyrase[1], SMAD-3 phosphorylation[2], H <sup>+</sup> K <sup>+</sup> -ATPase activity.[3] IC <sub>50</sub> : 65.01 µg/ml ( H <sup>+</sup> K <sup>+</sup> -ATPase ) [3]
<b>In Vitro</b>	In vitro: binding of Chebulinic acid causes displacement of catalytic Tyr129 away from its target DNA-phosphate molecule. [1] Chebulinic acid reduce the expression and activity of MMP-2 at an ED <sub>50</sub> value of 100 µM. EMT (Epithelial to Mesenchymal Transition) is found to be induced in ARPE-19 cells, through SMAD-3 phosphorylation and it is inhibited by CA. [2] chebulinic acid significantly inhibited H <sup>+</sup> K <sup>+</sup> -ATPase activity in vitro with IC <sub>50</sub> of 65.01 µg/ml. [3]

### REFERENCES

- [1]. Patel K et al. Identification of chebulinic acid as potent natural inhibitor of *M. tuberculosis* DNA gyrase and molecular insights into its binding mode of action. *Comput Biol Chem.* 2015 Dec;59 Pt A:37-47.
- [2]. Sivasankar S et al. Aqueous and alcoholic extracts of Triphala and their active compounds chebulagic acid and chebulinic acid prevented epithelial to mesenchymal transition in retinal pigment epithelial cells, by inhibiting SMAD-3 phosphorylation. *PLoS One.* 2015 Mar 20
- [3]. Mishra V et al. Anti-secretory and cyto-protective effects of chebulinic acid isolated from the fruits of *Terminalia chebula* on gastric ulcers. *Phytomedicine.* 2013 Apr 15;20(6):506-11.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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