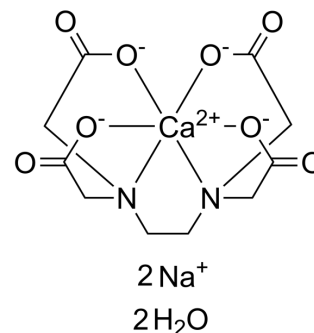


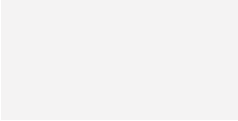
Ca(II)-EDTA disodium dihydrate

Cat. No.:	HY-W749867
CAS No.:	6766-87-6
Molecular Formula:	C ₁₀ H ₁₂ CaN ₂ O ₈ ·2H ₂ ·2Na
Molecular Weight:	410.3
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Ca(II)-EDTA disodium dihydrate (Calcium disodium EDTA dihydrate) is an orally active metal chelating reagent, exhibits bactericidal activities against periodontal pathogens <i>Aggregatibacter actinomycetemcomitans</i> , <i>Prevotella intermedia</i> and <i>Porphyromonas gingivalis</i> ^[1] . Ca(II)-EDTA disodium dihydrate is effective chelating antidotes for lead- and cadmium poisoning ^{[2][3]} .								
In Vitro	<p>Ca(II)-EDTA disodium dihydrate (0-100 mM) inhibits growths of periodontopathic bacteria <i>A. actinomycetemcomitans</i>, <i>P. intermedia</i> and <i>P. gingivalis</i>, with MICs of 70, 70 and 60 mM, respectively^[1].</p> <p>Ca(II)-EDTA disodium dihydrate (0-1000 mM) exhibits cytotoxicity in L929 cells and a safe dose of 75 mM^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Murine L929 cells</td> </tr> <tr> <td>Concentration:</td> <td>0-1000 mM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 h</td> </tr> <tr> <td>Result:</td> <td>Reduced cell viability in a dose-dependent manner. Remained a survival rate of 93% at the concentration of 75 mM.</td> </tr> </table>	Cell Line:	Murine L929 cells	Concentration:	0-1000 mM	Incubation Time:	24 h	Result:	Reduced cell viability in a dose-dependent manner. Remained a survival rate of 93% at the concentration of 75 mM.
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In Vivo	<p>Ca(II)-EDTA disodium dihydrate (50 mg/kg, p.o. for 4 weeks) alleviates the toxic effects of cadmium on kidney and bone with preference to the nanoparticles form^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Sprague Dawley rats ^[2]</td> </tr> <tr> <td>Dosage:</td> <td>50 mg/kg/day</td> </tr> <tr> <td>Administration:</td> <td>p.o. for 4 weeks (three-day break after each four consecutive days of administration)</td> </tr> <tr> <td>Result:</td> <td>Increased the body weight compared to the Cd-intoxicated group. Decreased in serum creatinine and cadmium concentration compared to the Cd-intoxicated group.</td> </tr> </table>	Animal Model:	Sprague Dawley rats ^[2]	Dosage:	50 mg/kg/day	Administration:	p.o. for 4 weeks (three-day break after each four consecutive days of administration)	Result:	Increased the body weight compared to the Cd-intoxicated group. Decreased in serum creatinine and cadmium concentration compared to the Cd-intoxicated group.
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Showed a good radio-density of the skeleton.

REFERENCES

- [1]. Miura, T. et al., Ca (II)-EDTA shows antimicrobial activity against periodontopathic bacteria. Journal of Biomedical Science and Engineering, 5, 10-14.
- [2]. Saleh SM, et al., Do Nanoparticles of Calcium Disodium EDTA Minimize the Toxic Effects of Cadmium in Female Rats? Biol Trace Elem Res. 2023 Sep 18.
- [3]. Saxena G, et al., Lead-induced oxidative stress and hematological alterations and their response to combined administration of calcium disodium EDTA with a thiol chelator in rats. J Biochem Mol Toxicol. 2004;18(4):221-33.
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Caution: Product has not been fully validated for medical applications. For research use only.

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