Product Data Sheet

Plecanatide

Cat. No.: HY-108741 CAS No.: 467426-54-6 Molecular Formula: $C_{65}H_{104}N_{18}O_{26}S_4$

Molecular Weight: 1681.89

Sequence: Asn-Asp-Glu-Cys-Glu-Leu-Cys-Val-Asn-Val-Ala-Cys-Thr-Gly-Cys-Leu (Disulfide bridge:

Cys4-Cys12; Cys7-Cys15)

NDECELCVNVACTGCL (Disulfide bridge: Cys4-Cys12; Cys7-Cys15) Sequence Shortening:

Target: **Guanylate Cyclase** Pathway: GPCR/G Protein

Sealed storage, away from moisture Storage:

> Powder -80°C 2 years -20°C 1 year

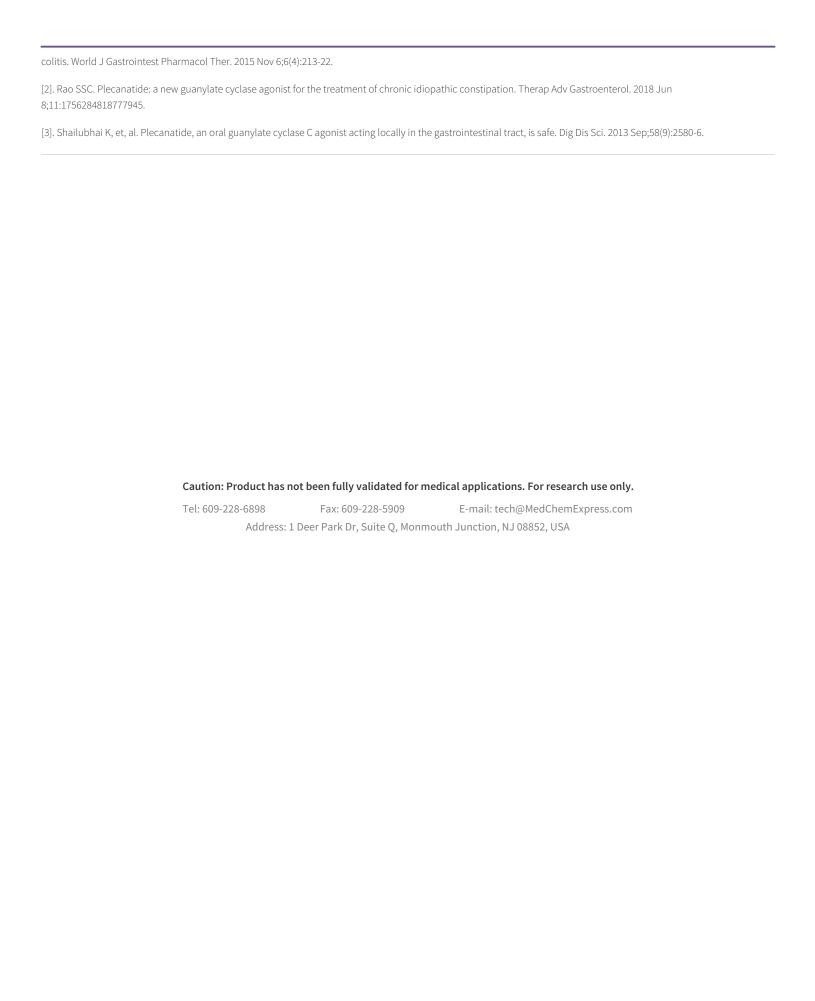
* In solvent: -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

BIOLOGICAL ACTIVITY

| Description | Plecanatide, an analogue of Uroguanylin, is an orally active guanylate cyclase-C (GC-C) receptor agonist. Plecanatide activates GC-C receptors to stimulate cGMP synthesis with an EC ₅₀ of 190 nM in T84 cells assay. Plecanatide shows anti-inflammatory activity in models of murine colitis ^{[1][2][3]} . | |
|---------------------------|--|---|
| IC ₅₀ & Target | EC50: 190 nM (guanylate cyclase-C) ^[1] | |
| In Vitro | Plecanatide (1 nM-10 μ M) activates GC-C receptor to stimulate cyclic guanosine monophosphate (cGMP) synthesis in a dose-dependent manner with EC ₅₀ of 190 nM in T84 cells ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. | |
| In Vivo | Plecanatide (0.5 and 2.5 mg/kg, p.o.) ameliorates spontaneous and chemically induced colitis after treatment for 7 days in BALB/c mice, and 14 days in $TCR\alpha^{-/-}$ mice ^[1] . Plecanatide (0.005-5 mg/kg, once daily for 7 days) also shows anti-inflammatory activity in dextran sulfate sodium (DSS) and trinitrobenzene sulfonic (TNBS)-induced colitis in BDF-1 mice ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. | |
| | Animal Model: | Female BALB/c mice (2-4 month old) are induced colitis by TNBS ^[1] |
| | Dosage: | 0, 0.5 and 2.5 mg/kg |
| | Administration: | P.o. for 7 days |
| | Result: | Effectively reduced colitis severity scores as compared to vehicle treatment. |

REFERENCES

[1]. Shailubhai K,et, al. Plecanatide and dolcanatide, novel guanylate cyclase-C agonists, ameliorate gastrointestinal inflammation in experimental models of murine



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