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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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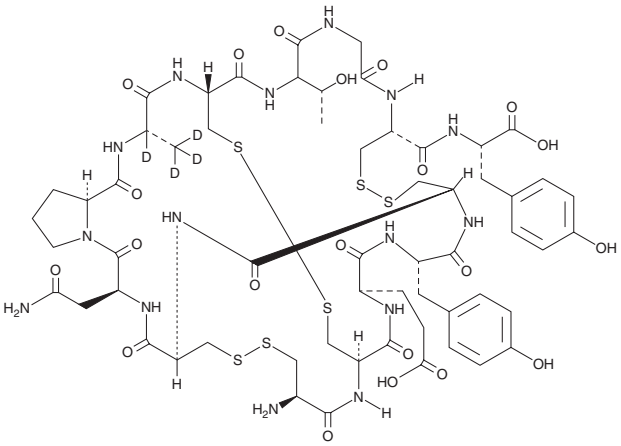
PRODUCT INFORMATION

Linaclotide-d_4

Item No. 28798



Formal Name: ((3S,6R,15R,20R,23S,26R,29R,32R,37R,40S,45aS)-32-amino-40-(2-amino-2-oxoethyl)-26-(2-carboxyethyl)-23-(4-hydroxybenzyl)-9-((R)-1-hydroxyethyl)-3-(methyl-d_3)-1,4,7,10,13,22,25,28,31,38,41,47-dodecaoxotetracontahydro-19H-37,20-(epiminomethano)-6,29-(methanodithiomethano)pyrrolo[2,1-s][1,2,27,28]tetrathia[5,8,11,14,17,20,23,32,35,38,41]undecaazacyclotritetracontine-15-carbonyl-3-d)-L-tyrosine

MF: $C_{59}H_{75}D_4N_{15}O_{21}S_6$

FW: 1,530.8

Chemical Purity: ≥95% (Linaclotide)

Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0

Supplied as: A solid

Storage: -20°C

Stability: ≥2 years

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

Laboratory Procedures

Linaclotide-d_4 is intended for use as an internal standard for the quantification of linaclotide (Item No. 24085) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Linaclotide-d_4 is supplied as a solid. A stock solution may be made by dissolving the linaclotide-d_4 in the solvent of choice, which should be purged with an inert gas. Linaclotide-d_4 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of linaclotide-d_4 in these solvents is approximately 30 mg/ml.

Description

Linaclotide is a peptide agonist of the guanylate cyclase C receptor (K_i = 16.4 nM in a radioligand binding assay using mouse intestinal mucosa).[1] Luminal exposure to 5 µg of linaclotide stimulates fluid secretion and cGMP concentration in jejunal loops isolated from wild-type mice but not guanylate cyclase C receptor-null mice. Linaclotide (100 µg/kg) increases intestinal transit rate in wild-type mice. It also reduces the number of phosphorylated ERK-positive dorsal horn neurons in the thoracolumbar spinal cord, a marker of nociceptive signaling, following noxious colorectal distension and mechanical hypersensitivity in a mouse model of TNBS-induced colitis.[2] Formulations containing linaclotide have been used for the treatment of constipation and pain associated with irritable bowel syndrome.

References

1. Bryant, A.P., Busby, R.W., Bartolini, W.P., *et al.* Linaclotide is a potent and selective guanylate cyclase C agonist that elicits pharmacological effects locally in the gastrointestinal tract. *Life Sci.* **86(19-20)**, 760-765 (2010).
2. Castro, J., Harrington, A.M., Hughes, P.A., *et al.* Linaclotide inhibits colonic nociceptors and relieves abdominal pain via guanylate cyclase-C and extracellular cyclic guanosine 3',5'-monophosphate. *Gastroenterology* **145(6)**, 1334-1346 (2013).

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