

Supplementary information

**GLP-1-directed NMDA receptor antagonism
for obesity treatment**

In the format provided by the
authors and unedited

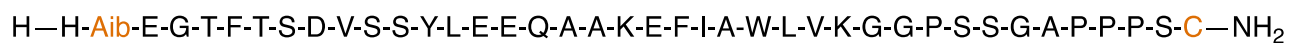
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Chemical structures

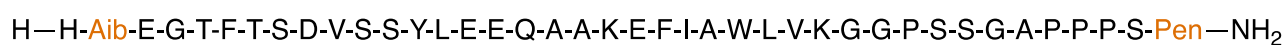
GLP-1 analogue. C-terminal cysteine homolog.



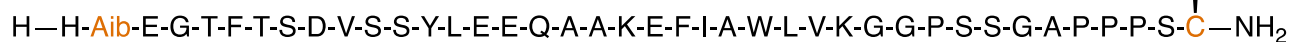
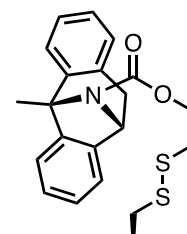
GLP-1 analogue. C-terminal homocysteine homolog.



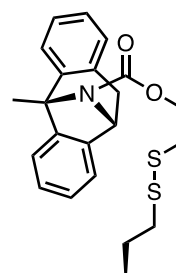
GLP-1 analogue. C-terminal penicillamine homolog.



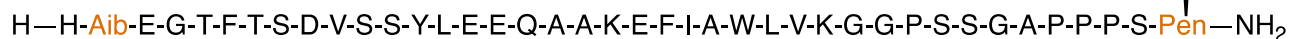
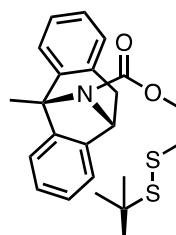
GLP-1–MK-801 (Cys-linked).



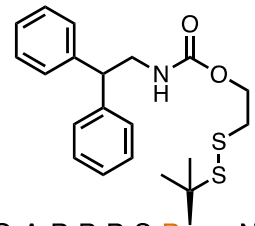
GLP-1–MK-801 (hCys-linked).



GLP-1–MK-801 (Pen-linked).



GLP-1–inactive MK-801.

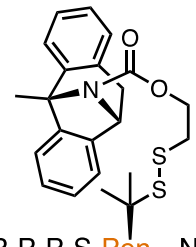


H–H–Aib–E–G–T–F–T–S–D–V–S–S–Y–L–E–E–Q–A–A–K–E–F–I–A–W–L–V–K–G–G–P–S–S–G–A–P–P–P–S–Pen–NH₂

GIP analogue.

H–Y–Aib–E–G–T–F–I–S–D–Y–S–I–A–M–D–K–I–H–Q–Q–D–F–V–N–W–L–L–A–Q–G–P–S–S–G–A–P–P–P–S–Pen–NH₂

GIP–MK-801.

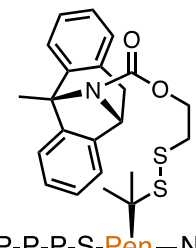


H–Y–Aib–E–G–T–F–I–S–D–Y–S–I–A–M–D–K–I–H–Q–Q–D–F–V–N–W–L–L–A–Q–G–P–S–S–G–A–P–P–P–S–Pen–NH₂

GIP/GLP-1 analogue.

H–Y–Aib–E–G–T–F–T–S–D–Y–S–I–Y–L–D–K–Q–A–A–Aib–E–F–V–N–W–L–L–A–G–G–P–S–S–G–A–P–P–P–S–Pen–NH₂

GIP/GLP-1–MK-801.

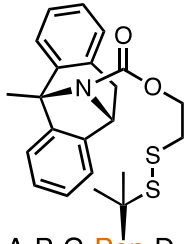


H–Y–Aib–E–G–T–F–T–S–D–Y–S–I–Y–L–D–K–Q–A–A–Aib–E–F–V–N–W–L–L–A–G–G–P–S–S–G–A–P–P–P–S–Pen–NH₂

PYY-analogue.

H–I–K–P–E–A–P–G–Pen–D–A–S–E–E–L–N–R–Y–Y–A–S–L–R–H–Y–L–N–W–V–T–R–Q–β-homoArg–Y–OH

PYY–MK-801.



H-I-K-P-E-A-P-G-Pen-D-A-S-E-E-L-N-R-Y-Y-A-S-L-R-H-Y-L-N-W-V-T-R-Q-β-homoArg-Y-OH

Supplementary Fig. 1 | Structures of chemical compounds. Chemical structures of GLP-1, GIP, GIP/GLP-1 and PYY analogues, and GLP-1–MK-801, GIP–MK-801, GIP/GLP-1–MK-801 and PYY–MK-801 conjugates.