

Supporting information

**Engineering Galanin Analogues that Discriminate Between GalR1 and GalR2
Receptor Subtypes and Exhibit Anticonvulsant Activity Following Systemic
Delivery**

Charles R. Robertson, Erika Adkins Scholl, Timothy H. Pruess, Brad R. Green, H. Steve
White, Grzegorz Bulaj

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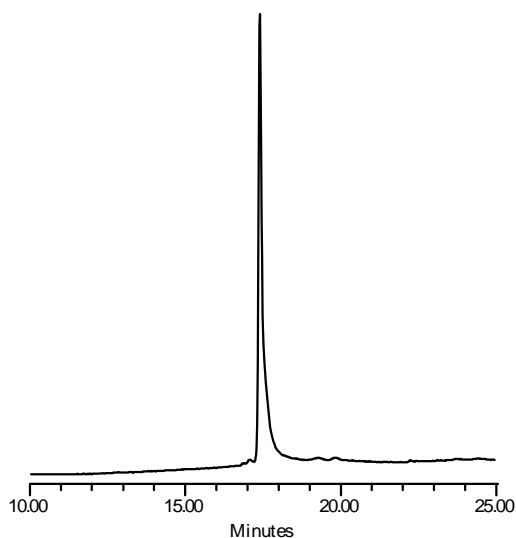
Supplementray Figure S1: Representative HPLC chromatogram of [N-Ac, des-Sar]Gal-B2.

Supplementary Table S1. Peptide sequences and their MALDI-TOF masses. Lys-P is palmitoylation of N^ε of lysine.

Analogue	Structure	Mass Spec. Exp.	Mass Spec. Calc.
Gal-B2	(Sar) WTLNSAGYLLGP PK(Lys-P)K	2112.33	2112.60
[Sar1Ala]Gal-B2	A WTLNSAGYLLGP PK(Lys-P)K	2112.57	2112.13
[Sar1Gly]Gal-B2	G WTLNSAGYLLGP PK(Lys-P)K	2099.18	2099.60
[N-Ac, des-Sar]Gal-B2	(N-Ac-Trp) TLNSAGYLLGP PK(Lys-P)K	2083.15	2083.60
[N-Me, des-Sar]Gal-B2	(N-Me-Trp) TLNSAGYLLGP PK(Lys-P)K	2056.55	2056.57
Gal-B5	WTLNSAGYLLGP PK(Lys-P)K	2040.13	2040.46

Supplementary Table S2. Physicochemistry properties of peptides analogues. Log D values were calculated from HPLC retention times (**previously presented Bulaj et al. *J. Med. Chem.* **2008**, *51*, 8038-8047). Rat serum stability was determined by incubating peptides in 25% rat serum at 37 °C. Purity was determined on 5 µg injections of peptide on a linear gradient 20% to 100% Buffer B in 40 mins.

Analogue	HPLC retention time (min)	Calc log D	% Purity
Gal-B2	**	1.24 ± 0.02	98.8%
[Sar1Ala]Gal-B2	17.54 ± 0.03	1.28 ± 0.01	95.5%
[Sar1Gly]Gal-B2	17.72 ± 0.31	1.30 ± 0.04	96.9%
[N-Ac, des-Sar]Gal-B2	17.50 ± 0.05	1.28 ± 0.02	97.3%
[N-Me, des-Sar]Gal-B2	17.65 ± 0.08	1.29 ± 0.01	96.7%
Gal-B5	**	1.22 ± 0.02	99.5%



Supplementary Figure S1. Representative HPLC chromatogram of analogue **[N-Me, des-Sar]Gal-B2** on a linear gradient 20% to 100% Buffer B in 40 mins, 96.7% purity.