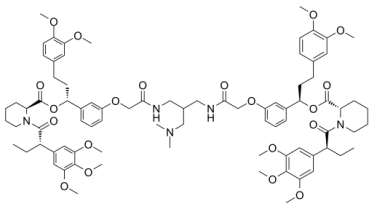
Data Sheet

Product Name:	AP20187
Cat. No.:	CS-1953
CAS No.:	195514-80-8
Molecular Formula:	C82H107N5O20
Molecular Weight:	1482.75
Target:	FKBP
Pathway:	Apoptosis; Autophagy; Immunology/Inflammation
Solubility:	DMSO : ≥ 57 mg/mL (38.44 mM)



BIOLOGICAL ACTIVITY:

AP20187 (B/B Homodimerizer) is a cell-permeable ligand used to dimerize **FK506-binding protein** (**FKBP**) fusion proteins and initiate biological signaling cascades and gene expression or disrupt protein-protein interactions. IC50 & Target: FKBP homodimerizer[1] **In Vitro:** When LNCaP cells are treated with AP20187 (B/B Homodimerizer) (100 nM), ro-iCaspase-9 levels are significantly reduced, and the smaller processed active caspase-9 becomes apparent[2]. **In Vivo:** Real-time PCR analysis shows that AP20187 (B/B Homodimerizer) (0.5 mg/kg, 2 mg/kg, or 5 mg/kg) treatment significantly increases the levels of CHOP mRNA in the CNS of PLP/Fv2E-PERK mice at PID12. AP20187 treatment significantly alleviates EAE-induced myelin damage in these mice. AP20187 (B/B Homodimerizer) treatment significantly reduces the number of degenerating axons and increases the density of axons in the demyelinating lesions in the lumbar spinal cord of PLP/Fv2E-PERK mice[2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: AP20187 is dissolved in PBS[2].[2]For the in vitro study, 16 h after ADV infection, cells are treated with R1881 (10 nM), AP20187 (B/B Homodimerizer) (10 nM), both, or neither for 8 h. Cells are then rinsed with PBS and fixed with 4% paraformaldehyde for 1 h at room temperature. After rinsing with PBS, cells are incubated in ice-cold permeabilization solution (0.1% Triton X-100, 0.1% sodium citrate) for 2 min at 0°C. Cells are rinsed with PBS and stained with TUNEL reaction mixture for 60 min at 37°C. After another PBS wash, cells are incubated with Converter-AP for 30 min at 37°C. Cells are rinsed and incubated with substrate 5-bromo-4-chloro-3-indolyl phosphate/nitroblue tetrazolium for 30 min. After a final PBS rinse (repeated twice), cells are microphotographed[2]. **Animal Administration:** AP20187 is dissolved in 100% ethanol at a concentration of 62.5 mg/mL and stored (20°C). Then treatment solutions is freshly prepared from a dilution of 1.25 mg/mL consisting of 4% ethanol, 10% PEG-400, and 2% Tween-20 in water[2].[2]Mice[2]
To activate the transgene Fv2E-PERK in oligodendrocytes, PLP/Fv2E-PERK transgenic mice are given intraperitoneal injections of AP20187 (B/B Homodimerizer) daily at a dose of 0.5 mg/kg, 2 mg/kg, or 5 mg/kg. Lyophilized AP20187 (B/B Homodimerizer) is dissolved in 100% ethanol at a concentration of 62.5 mg/mL stock solution and stored at −20°C. Injection solutions consist of 4% ethanol, 10% PEG-400, and 2% Tween-20 in water. The transgenic mice receiving only the vehicle (4% ethanol, 10% PEG-400, 2% Tween-20 in water) served as controls.

References:

[1]. Ahmed S, et al. Photocleavable dimerizer for the rapid reversal of molecular trap antagonists. J Biol Chem. 2014 Feb 21;289(8):4546-52.

[2]. Lin W, et al. Oligodendrocyte-specific activation of PERK signaling protects mice against experimental autoimmune encephalomyelitis. J Neurosci. 2013 Apr 3;33(14):5980-91.

[3]. Haas ME, et al. The Role of Proprotein Convertase Subtilisin/Kexin Type 9 in Nephrotic Syndrome-Associated Hypercholesterolemia. Circulation. 2016 Jul 5;134(1):61-72.

CAIndexNames:

2-Piperidinecarboxylic acid, 1-[(2S)-1-oxo-2-(3,4,5-trimethoxyphenyl)butyl]-, 2,2'-[[2-[(dimethylamino)methyl]-1,3-propanediyl]bis[imino(2-oxo-2,1-ethanediyl)oxy-3,1-phenylene[(1R)-3-(3,4-dimethoxyphenyl)propylidene]]] ester, (2S,2'S)-

SMILES:

COC1=C(OC)C=C(CC[C@H](C2=CC=CC(OCC(NCC(CN(C)C)CNC(COC3=CC=CC([C@H](OC([C@H]4N(C([C@@H](CC)C5=CC(OC)=C(OC)C(OC)=C5)=O)CCCC4)=O)CCC6=CC(OC)=C(OC)C=C6)=C3)=O)=O)=C2)OC([C@@H]7CCCCN7C([C@H](C8=CC(OC)=C(OC)C(OC)=C8)CC)=O)=O)C=C1

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