Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat TFA

Cat. No.: HY-P1240A

Molecular Formula: $C_{120}H_{178}F_3N_{35}O_{31}S$

Molecular Weight: 2695.97

Sequence: Met-Glu-Val-Gly-Trp-Tyr-Arg-Ser-Pro-Phe-Ser-Arg-Val-Val-His-Leu-Tyr-Arg-Asn-Gly-Lys MEVGWYRSPFSRVVHLYRNGK (TFA salt)

Sequence Shortening: MEVGWYRSPFSRVVHLYRNGK

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage: Sealed storage, away from moisture and light, under nitrogen

Powder -80°C 2 years

-20°C 1 year

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

SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 50 mg/mL (18.55 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.3709 mL	1.8546 mL	3.7092 mL
	5 mM	0.0742 mL	0.3709 mL	0.7418 mL
	10 mM	0.0371 mL	0.1855 mL	0.3709 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (37.09 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat (MOG (35-55)) TFA is a minor component of CNS myelin. Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat TFA has encephalitogenic activity and induces T cell proliferative. Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat TFA induces Th1 cytokine response as well as relatively high levels of IgG antibodies. Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat TFA produces a relapsing-remitting neurological disease with extensive plaque-like demyelination[1][2][3].

In Vitro

Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat (MOG (35-55); 0-50 μg/mL; 72 h; lymph nodes cells) TFA induces T cell proliferative and secretes Th1 cytokines including IFN-γ, TNF-α, IL-10, IL-4 and IL-5. Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat TFA increases the level of IgG[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Myelin oligodendrocyte glycoprotein (MOG) peptide 35-55 is one of the targets of self-reactive T cell responses, leading to acute and later chronic autoimmune processes. MOG 35-55 is capable of inducing experimental autoimmune encephalomyelitis (EAE) in B6 mice[1].

Induction of experimental autoimmune encephalomyelitis (EAE) model[3]

- Background

  Myelin Oligodendrocyte Glycoprotein Peptide (35-55) CAN trigger an immune response against the CNS, and induces inflammation and destruction of myelin or antigen-bearing structures that causes neurological abnormalities.

- Specific Mmodeling Methods

  Mice: C57BL/6 background mice • 2–4 months old • male and female
  Administration: On day 0: 3 mg/mL peptide plus CFA (4 mg/mL) • Mix thoroughly 1: 1 peptide and CFA solutions • s.c. • 100 µL for each hind flank; • On day 0 and day 2: 2.5 µg/mL of Bordetella pertussis toxin • i.p. • 200 µL

  Note

  1. Once peptide and CFA emulsion is formed, it can be stored at 4 °C for a few hours or used immediately.
  2. Symptoms appear approximately 10–15 days after immunization.
  3. When mice have clinical symptoms of EAE, hydrated food is placed on the cage floor to facilitate access to these mice.
  4. Record parameters every other day at the beginning, and daily from 7th postimmunization day. Body weight decreases usually precedes EAE clinical signs and is a very objective and valuable measure.

- Modeling Indicators

  Evaluate changes in body weight and clinical scoring: body weight loss, loss of tail tonus, paralyzed tail, hind limb paraparesis, hind limb paralysis, front leg paralysis, tetraplegia, moribund, etc.
  prototypical histopathological changes: Luxol fast blue staining of spinal cord for myelin evaluation shows infiltrates and demyelination in EAE animals.

- Correlated Product(s): Complete Freund's adjuvant (CFA) (HY-153808)
- Opposite Product(s): /

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	HLA-DR2 (DRB1*1501) mice[1]
Dosage:	200 µg (0.2 mL)
Administration:	Intraperitoneal injection; once, for 38 days

Result:	Resulted in paralysis of both hind and forelimbs.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2025 Jan 13:e2409086.
- Cell Death Dis. 2022 Sep 2;13(9):759.
- Acta Physiol. 2023 Apr 25.
- Int Immunopharmacol. 2022 Jan 29;105:108566.
- Research Square Print. September 28th, 2022.

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REFERENCES

[1]. Rich C, et, al. Myelin oligodendrocyte glycoprotein-35-55 peptide induces severe chronic experimental autoimmune encephalomyelitis in HLA-DR2-transgenic mice. Eur J Immunol. 2004 May;34(5):1251-61.

[2]. Slavin A, et, al. Induction of a multiple sclerosis-like disease in mice with an immunodominant epitope of myelin oligodendrocyte glycoprotein. Autoimmunity. 1998;28(2):109-20.

[3]. Giralt M, et, al. Active Induction of Experimental Autoimmune Encephalomyelitis (EAE) with MOG35-55 in the Mouse. Methods Mol Biol. 2018;1791:227-232.

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