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**Product Data Sheet**

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Product Name: TOK-8801

Cat. No.: GC31957

**Chemical Properties**

Cas. No. 105963-46-0

SMILES O=C(C1=C(C)N2C(S1)=NC(C)(C)C2)NCCC3=CC=CC=C3Formula  $C_{17}H_{21}N_3OS$  M.Wt 315.43

Solubility Soluble in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Protocol****Cell experiment:**

Spleen cells ( $2 \times 10^5$ ) or thymus cells ( $2 \times 10^5$ ) from BALB/c mice are cultured with Con A (1 or 5  $\mu\text{g}/\text{mL}$ ) or LPS (10  $\mu\text{g}/\text{mL}$ ) in 0.2 mL of RPMI-1640 medium containing 5% FCS using round-bottomed microculture plates with 96 wells for 2 days and are pulsed with 0.5  $\mu\text{Ci}$  of  $^3\text{H-TdR}$  for an additional 18 hr. Then, cells are harvested on glass fiber filters, and  $^3\text{H-TdR}$  incorporation is measured in a liquid scintillation counter. TOK-8801 is added at the initiation of the culture[1].

**Caution: Product has not been fully validated for medical applications. For research use only.**

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### Animal experiment:

Male BDF1 mice are used in this study. Control mice are maintained without food or water while counterparts are under the condition of restraint-stress. On the next day, the mice are immunized with  $5 \times 10^8$  SRBC intraperitoneally. Immediately, 24 hr and 48 hr after the immunization, TOK-8801 is orally given at doses of 0.02, 0.1 and 0.5 mg/kg/day. All administrations are done after a starvation for 6 hr. Four days after the immunization, splenic anti SRBC PFC are assayed[1].

### References:

- [1]. Fujiwara M, et al.  
Immunomodulatory activity of the newly synthesized compound TOK-8801 (N-(2-phenylethyl)-3,6,6-trimethyl-5,6-dihydroimidazo[2,1-b]thiazole-2-carboxamide). Jpn J Pharmacol. 1989 Dec;51(4):549-54.
- [2]. Shibata K, et al.  
Immunomodulatory effect of a newly synthesized compound, TOK-8801 (N-(2-phenylethyl)-3,6,6-trimethyl-5,6-dihydroimidazo [2,1-b]thiazole-2-carboxamide) on antibody production in vivo and delayed-type hypersensitivity in mice. Int J Immunopharmacol. 1990;12(5):497-502.

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### Background

TOK-8801 is a synthesized dihydroimidazothiazole carboxamide and is under development as an immunomodulator.

TOK-8801 is a synthesized dihydroimidazothiazole carboxamide and is under development as an immunomodulator. TOK-8801 augments the in vitro anti-SRBC PFC response of murine splenocytes in a bell-shaped manner. The stimulatory effect of TOK-8801 is observed at concentrations of  $2.5 \times 10^{-7}$  to  $2.5 \times 10^{-5}$  M and is diminished at  $10^{-4}$  M. The cell-viability is not altered during the culture with TOK-8801 at any doses used in this experiment ( $10^{-7}$  to  $10^{-4}$  M). TOK-8801 enhances the <sup>3</sup>H-TdR uptake of these responses in a bell-shaped manner, and effective concentrations of TOK-8801 are  $10^{-7}$  to  $10^{-5}$  M[1].

The anti-SRBC PFC response per spleen, which is prominently lowered by restraint-stress ( $P < 0.05$ ), is significantly restored by the administration of TOK-8801 (0.5 mg/kg,  $P < 0.05$ ). The number of total splenic lymphocytes in restraint-stress is decreased, but there are no significant changes in the number of total splenic lymphocytes by the treatment with TOK-8801[1]. When TOK-8801 is administered orally at doses of 0.1 to 10 mg/kg, the number of plaque forming cell (PFC) significantly decreases or tends to decrease. Treatment of TOK-8801 at doses of 0.1 to 1 mg/kg causes significant suppression in the delayed-type hypersensitivity (DTH) reaction induced in high responder[2].

[1]. Fujiwara M, et al. Immunomodulatory activity of the newly synthesized compound TOK-8801 (N-(2-phenylethyl)-3,6,6-trimethyl-5,6-dihydroimidazo[2,1-b]thiazole-2-carboxamide). Jpn J Pharmacol. 1989 Dec;51(4):549-54. [2]. Shibata K, et al. Immunomodulatory effect of a newly synthesized compound, TOK-8801 (N-(2-phenylethyl)-3,6,6-trimethyl-5,6-dihydroimidazo [2,1-b]thiazole-2-carboxamide) on antibody production in vivo and delayed-type hypersensitivity in mice. Int J Immunopharmacol. 1990;12(5):497-502.

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