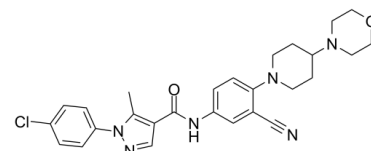


## Data Sheet

<b>Product Name:</b>	Y-320
<b>Cat. No.:</b>	CS-2738
<b>CAS No.:</b>	288250-47-5
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>29</sub> ClN <sub>6</sub> O <sub>2</sub>
<b>Molecular Weight:</b>	505.01
<b>Target:</b>	Interleukin Related
<b>Pathway:</b>	Immunology/Inflammation
<b>Solubility:</b>	DMSO : 5.5 mg/mL (10.89 mM; Need ultrasonic)



### BIOLOGICAL ACTIVITY:

Y-320 is a new phenylpyrazoleamide immunomodulator; inhibits IL-17 production by CD4 T cells stimulated with IL-15 with IC50 values of 20 to 60 nM. IC50 value: 20-60 nM (IL-17 production) [1] Target: IL-17 Y-320 inhibited IL-17 production by CD4 T cells stimulated with IL-15 with IC50 values of 20 to 60 nM. Oral administration of Y-320 (0.3 to 3 mg/kg) significantly inhibited the development and progression of arthritis and joint destruction with reduction of IL-17 mRNA expression in arthritic joints of type II collagen-induced arthritis (CIA) in DBA/1J mice. Y-320 in combination with anti-murine tumor necrosis factor- $\alpha$  monoclonal antibody showed a synergistic effect on mouse CIA. Moreover, therapeutic treatment with Y-320 (0.3 and 1 mg/kg orally) ameliorated CIA in cynomolgus monkeys [1].

### PROTOCOL (Extracted from published papers and Only for reference)

Cell assay(IL-17 Production by CD4 T Cells) [1]: Murine CD4 T cells ( $5 \times 10^5$  cells/well) were stimulated with 100 ng/mL of recombinant mouse (rm)-IL-15 (Research Diagnostics Inc., Flanders, NJ, USA), 1,000 ng/mL of rm-CXC-chemokine ligand 12 (CXCL12, R&D Systems), and hamster anti-mouse CD3 $\epsilon$  monoclonal antibody (mAb) (clone: 145-2C11, plate-precoated at 1  $\mu$ g/mL, BD Biosciences, San Diego, CA, USA) in 10% FCS-RPMI1640 medium in the presence or absence of Y-320 and cultured for 48 h at 37 °C in 5% CO<sub>2</sub>. In other experiments, human CD4 T cells ( $5 \times 10^5$  cells/well) prepared from peripheral blood of healthy volunteers were stimulated with recombinant human (rh) IL-15 (Genzyme/Techne, Cambridge, MA, USA) for 48 h. After the culture, the amounts of IL-17 in the culture supernatants were determined by enzyme-linked immunosorbent assay (ELISA) kit for mouse or human IL-17 (Genzyme/Techne). The amounts of interferon (IFN)- $\gamma$  and TNF- $\alpha$  were also determined by ELISA for mouse or human IFN- $\gamma$  and TNF- $\alpha$  (Genzyme/Techne). Animal administration [1]: chronic-progressing CIA was induced by a single immunization with 200  $\mu$ g bovine type II collagen and Freund's complete adjuvant. Y-320 was suspended in a 0.5% hydroxypropylmethylcellulose (HPMC, Shinetsu Chemical Co., Tokyo, Japan) solution and administered orally. Anti-murine TNF- $\alpha$  mAb (clone: TN3-19.12, BD Biosciences) diluted with saline was administered intravenously. Arthritis scores were evaluated according to the following criteria. Score 0, no change; score 1, edema at one joint; score 2, edema at two or more joints, or mild edema throughout the limbs; score 3, severe edema throughout the limbs; score 4, severe edema throughout the limbs and ankylosis.

### References:

[1]. Ushio H, et al. A new phenylpyrazoleamide, y-320, inhibits interleukin 17 production and ameliorates collagen-induced arthritis in mice and cynomolgus monkeys. *Pharmaceuticals (Basel)*. 2013 Dec 23;7(1):1-17.

**CAIndexNames:**

1H-Pyrazole-4-carboxamide, 1-(4-chlorophenyl)-N-[3-cyano-4-[4-(4-morpholinyl)-1-piperidinyl]phenyl]-5-methyl-

**SMILES:**

O=C(C1=C(C)N(C2=CC=C(Cl)C=C2)N=C1)NC3=CC=C(N4CCC(N5CCOCC5)CC4)C(C#N)=C3

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

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