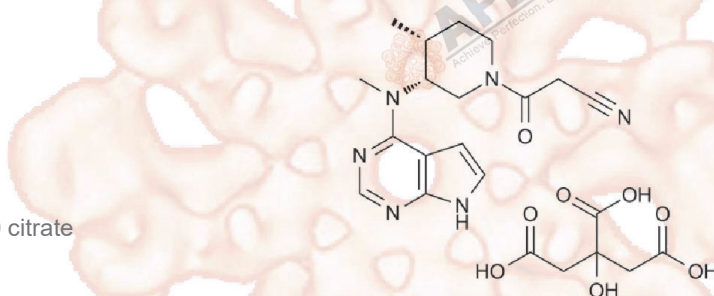


## Product Data Sheet

### Tofacitinib (CP-690550) Citrate

<b>Cat. No.:</b>	A4135
<b>CAS No.:</b>	540737-29-9
<b>Formula:</b>	C <sub>16</sub> H <sub>20</sub> N <sub>6</sub> O · C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>
<b>M.Wt:</b>	504.49
<b>Synonyms:</b>	Tasocitinib citrate, CP 690550 citrate
<b>Target:</b>	Chromatin/Epigenetics
<b>Pathway:</b>	JAK
<b>Storage:</b>	Store at -20°C



### Solvent & Solubility

≥25.22 mg/mL in DMSO; insoluble in EtOH; ≥3.4 mg/mL in H<sub>2</sub>O with gentle warming and ultrasonic

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	<b>Concentration</b>			
	<b>1 mM</b>	1.9822 mL	9.9110 mL	19.8220 mL
	<b>5 mM</b>	0.3964 mL	1.9822 mL	3.9644 mL
	<b>10 mM</b>	0.1982 mL	0.9911 mL	1.9822 mL

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

### Biological Activity

Shortsummary

Potent JAK inhibitor

IC<sub>50</sub> & Target

1 nM (JAK3)

In Vitro

#### Cell Viability Assay

Cell Line: Naïve T cell

Preparation method:

The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions:

16h; 50 nM

	Applications:	A concentration of 100 nM. 50 nM, but not 10 nM, CP-690,550 suppressed IFN- $\gamma$ production 4 days after Th1 differentiation conditions were established, while both 10 nM and 50 nM CP-690,550 strongly suppressed IL-4 production under Th2 differentiation conditions. This suggests that CP-690,550 inhibits both Th1 and Th2 differentiation, and that Th2 is more sensitive than Th1 to this drug. We then examined the effect of CP-690,550 on Th17 and induced T regulatory (iTreg) cells. CP-690,550 enhanced IL-17 production while suppressing Foxp3 and IL-10 induction in a dose-dependent manner under Th17 differentiation conditions. These data indicate that
In Vivo	<b>Animal experiment</b>	
	Animal models:	C57BL6/J mice and DBA/1J mice
	Dosage form:	30 nM; intraperitoneal injection
	Applications:	Naïve CD4 <sup>+</sup> T cells isolated from mice were stimulated with various cytokines in the presence of various concentrations of CP-690,550. CP-690,550 selectively inhibited IFN $\gamma$ -induced STAT1, IL-4-induced STAT6, and IL-2-induced STAT5 at 3–30 nM, while 30 nM CP-690,550 did not suppress IL-6-induced STAT3 phosphorylation. A concentration greater than 100 nM was required for the partial suppression of STAT3
Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.	

## Product Citations

1. Liu S, Verma M, et al. "Steroid resistance of airway type 2 innate lymphoid cells from patients with severe asthma: The role of thymic stromal lymphopoietin." *J Allergy Clin Immunol*. 2018 Jan;141(1):257-268.e6.PMID:28433687
2. Zheng, Lufeng, et al. "The 3' UTR of the pseudogene CYP4Z2P promotes tumor angiogenesis in breast cancer by acting as a ceRNA for CYP4Z1." *Breast cancer research and treatment* (2015): 1-14.PMID:25701119

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## References

- [1] Yoshida H, Kimura A, Fukaya T, et al. Low dose CP-690,550 (tofacitinib), a pan-JAK inhibitor, accelerates the onset of experimental autoimmune encephalomyelitis by potentiating Th17 differentiation[J]. *Biochemical and biophysical research communications*, 2012, 418(2): 234-240.

## Caution

**FOR RESEARCH PURPOSES ONLY.**



**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

**APEX BIO Technology**

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