

# **Recommendations for TB Screening in Persons taking Targeted Immunotherapies (including Tumor Necrosis Factor Inhibitors)**

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The use of new targeted immunotherapies (or biologics) has radically transformed the available treatment options for many diseases. These targeted immunotherapies work by blocking specific molecules that mediate certain immune responses or by depleting the cells that express them. Some can also increase the risk of progression to active TB disease by modulating the immunologic functions that contain TB organisms.

This risk varies by drug class and mechanism of action<sup>1</sup>. The use of tumor necrosis factor (TNF)-alpha inhibitors has been associated with high risk of progression to active TB disease. Active TB disease occurring in the setting of TNF inhibitor use has a greater likelihood of involving extra-pulmonary sites or being disseminated at presentation<sup>2</sup>. The risk has been reported to be greater with infliximab and adalimumab than with etanercept<sup>2</sup>. Latent TB infection (LTBI) screening and treatment appears to significantly reduce the incidence of progression to active TB disease in these patients<sup>3</sup>.

There is growing evidence that other targeted immunotherapies (e.g., PD-1/PDL1 inhibitors, CTLA-4 inhibitors, JAK inhibitors, and IL-6 to name a few) are also associated with increased risk of TB reactivation. Data are rapidly emerging in this area and more targeted immunotherapies are approved each year.

The Table lists targeted immunotherapies as of March 2026 where 1) the manufacturer's package insert recommends TB infection testing and/or 2) oncology guidelines from the National Comprehensive Cancer Network (NCCN) recommend TB infection testing (even if the manufacturer's package insert does not)<sup>4,5</sup>. SFDPH recommends TB screening in all targeted immunotherapies listed.

Based mostly on expert opinion, patients with a diagnosis of LTBI should be initiated on treatment for at least one month, if possible, prior to starting these targeted immunotherapies where a risk for TB progression has been identified.

## **Table: Recommendations for Tuberculosis Infection Testing for Persons Taking Targeted Immunotherapies (e.g., Biologics and Small Molecule Inhibitors)**

<b>Generic Drug Name</b>	<b>Targeted cell, molecule or pathway of immunotherapy</b>	<b>Brand drug name(s): reference product, biosimilars and interchangeables<sup>#</sup></b>
abatacept	selective T-cell costimulation modulator, CTLA-4 <sup>†</sup>	Orencia
abrocitinib	kinase inhibitor (JAK1) <sup>‡</sup>	Cibinqo
adalimumab	TNF	Abrilada, Amjevita, Cyltezo, Hadlima, Hulio, Humira, Hyrimoz, Idacio, Simlandi, Yuflyma, Yusimry
alemtuzumab	CD-52	Campath, Lemtrada
anakinra	IL-1	Kineret
atezolizumab	PD-1 / PD-L1 <sup>†</sup>	Tecentriq
avelumab	PD-1 / PD-L1 <sup>†</sup>	Bavencio
baricitinib	kinase inhibitor (JAK1/JAK2) <sup>‡</sup>	Olumiant
belatacept	selective T-cell costimulation modulator, CTLA-4 <sup>†</sup>	Nulojix
bimekizumab	IL-17 <sup>§</sup>	Bimzelx
brodalumab	IL-17 <sup>§</sup>	Siliq
canakinumab	IL-1	Ilaris
cemiplimab	PD-1 / PD-L1 <sup>†</sup>	Libtayo
certolizumab	TNF	Cimzia
cosibelimab	PD-1 / PD-L1 <sup>†</sup>	Unloxcyt
deucravacitinib	kinase inhibitor (TYK2)	Sotyktu
deuruxolitinib	kinase inhibitor (JAK1/JAK2) <sup>‡</sup>	Leqselvi
dostarlimab	PD-1 / PD-L1 <sup>†</sup>	Jemperli
durvalumab	PD-1 / PD-L1 <sup>†</sup>	Imfinzi
emapalumab	Interferon-gamma	Gamifant
etanercept	TNF	Enbrel, Erelzi, Eticovo
everolimus	mTOR-inhibitor <sup>‡</sup>	Afinitor, Everolimus, Zortress
fedratinib	kinase inhibitor (JAK2, FLT3) <sup>‡</sup>	Inrebic
golimumab	TNF	Simponi
guselkumab	IL-23 <sup>§</sup>	Tremfya
inebilizumab	CD-19	Uplizna
infliximab	TNF	Avsola, Inflectra, Ixifi, Remicade, Renflexis, Zymfentra
ipilimumab	CTLA-4 (checkpoint inhibitor) <sup>†</sup>	Yervoy
ixekizumab	IL-17 <sup>§</sup>	Taltz
mirikizumab	IL-23 <sup>§</sup>	OmvoH
momelotinib	kinase inhibitor (JAK1, JAK2) <sup>‡</sup>	Ojjaara
nivolumab	PD-1 / PD-L1 <sup>†</sup>	Opdivo
nivolumab and relatlimab	PD-1 / PD-L1 <sup>†</sup>	Opdualag

pacritinib	kinase inhibitor (JAK2, FLT3) <sup>‡</sup>	Vonjo
pembrolizumab	PD-1 / PD-L1 <sup>†</sup>	Keytruda
penpulimab	PD-1 / PD-L1 <sup>†</sup>	No U.S. proprietary name identified
retifanlimab	PD-1 / PD-L1 <sup>†</sup>	Zynyz
rilonacept	IL-1	Arcalyst
risankizumab	IL-23 <sup>§</sup>	Skyrizi
ritlectinib	kinase inhibitor (JAK3) <sup>‡</sup>	Litfulo
ruxolitinib	kinase inhibitor (JAK1/JAK2) <sup>‡</sup>	Jakafi, Jakavi, Opzelura
sarilumab	IL-6 <sup>‡</sup>	Kevzara
satralizumab	IL-6 <sup>‡</sup>	Enspryng
secukinumab	IL-17 <sup>§</sup>	Cosentyx
siltuximab	IL-6 <sup>‡</sup>	Sylvant
sirolimus	mTOR-inhibitor <sup>‡</sup>	Fyarro, Hyftor, Rapamune, Sirolimus
spesolimab	IL-36	Spevigo
temsirolimus	mTOR-inhibitor <sup>‡</sup>	Temsirolimus, Torisel
tildrakizumab	IL-23 <sup>§</sup>	Ilumya
tislelizumab	PD-1 / PD-L1 <sup>†</sup>	Tevimbra
tocilizumab	IL-6 <sup>‡</sup>	Actemra, Avtozma, Tofidence, Tyenne
tofacitinib	kinase inhibitor (JAK1/JAK2/JAK3) <sup>‡</sup>	Xeljanz
toripalimab	PD-1 / PD-L1 <sup>†</sup>	Loqtorzi
tremelimumab	CTLA-4 (checkpoint inhibitor) <sup>†</sup>	Imjudo
upadacitinib	kinase inhibitor (JAK1) <sup>‡</sup>	Rinvoq
ustekinumab	IL-12/IL-23 <sup>§</sup>	Imuldosa, Otulfi, Pyzchiva, Selarsdi, Starjemza, Stelara, Steqeyma, Wezlana, Yesintek
vedolizumab	integrin ( $\alpha4\beta7$ )	Entyvio

**Abbreviations (alphabetical):**

CD (cluster of differentiation), CTLA (cytotoxic T-lymphocyte-associated antigen 4), FLT (FMS-like tyrosine kinase), IL (interleukin), JAK (Janus kinase), mTOR (mammalian target of rapamycin), PD-1 (programmed cell death protein 1), PD-L1 (programmed death-ligand 1), TNF (tumor necrosis factor)

**Notes:**

# Brand names should be checked against the FDA Purple Book or Orange Book as this list will change with new drug approvals.

† Immune checkpoint inhibitors, including PD-1 (programmed cell death-1), PD-L1 (programmed cell death ligand-1) and cytotoxic T-lymphocyte associated protein 4 (CTLA) inhibitors. While the manufacturer package inserts (i.e., FDA prescribing information) for PD-1 and PD-L1 inhibitors include statements about possible increased TB risk based on published animal (mice and macaque) studies, TB testing prior to use is not formally recommended<sup>6-7</sup>. However, TB

testing is recommended in NCCN guidelines<sup>5</sup>. In humans, meta-analysis and retrospective reviews of persons with cancer who received PD-1/PD-L1 inhibitors have identified an increased risk of TB disease<sup>8-10</sup>. Currently SFDPH TB Clinic recommends TB testing prior to use of these drugs.

‡ Janus-associated kinase (JAK), IL-6 inhibitor and mTOR inhibitors: the manufacturer package inserts for some JAK inhibitors, IL-6 and mTOR inhibitors do not recommend TB infection screening prior to use, although they are included in the NCCN guidelines<sup>5</sup>. Increasing attention is focused on JAK inhibitors, which have broad immunomodulatory effects including on interferon- $\gamma$  signaling that is critical for TB control. Currently SFDPH TB Clinic recommends TB testing prior to use of these drugs.

§ Interleukin (IL)-17 and IL-23 inhibitors: IL-17 and IL-23 inhibitors are approved in the U.S. for certain dermatology, rheumatology and gastroenterology conditions. The manufacturer package inserts for these drugs recommend TB testing prior to use. However, in early 2026 a Joint Position Statement from the National Psoriasis Foundation Medical Board and the International Psoriasis Council recommended against routine TB infection testing for individuals with psoriasis starting these therapies. This position statement was based on a review of clinical trial data, cohort studies, and post-marketing surveillance<sup>11</sup>. These findings may not apply to persons with rheumatology and gastroenterology indications. More data is emerging -multiple in-vitro studies and a forthcoming study in non-human primates also suggest an association between IL-17 and IL-23 blockade and increased TB risk<sup>12-15</sup>. Currently SFDPH TB Clinic recommends TB testing prior to use of these drugs.

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