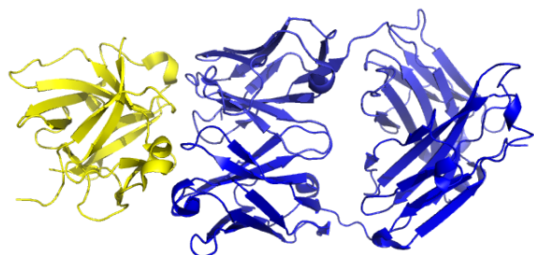


Canakinumab



Ribbon diagram of canakinumab (blue) bound to IL-1 β (yellow) from PDB entry 5bvp^[1]

Canakinumab (INN, trade name **Ilaris**, previously ACZ885)^[2] is a human monoclonal antibody targeted at interleukin-1 beta. It has no cross-reactivity with other members of the interleukin-1 family, including interleukin-1 alpha.^[3]

Canakinumab was approved for the treatment of cryopyrin-associated periodic syndromes (CAPS) by the U.S. Food and Drug Administration (FDA) on June 2009^[4] and by the European Medicines Agency in October 2009.^[5] CAPS is a spectrum of autoinflammatory syndromes including familial cold autoinflammatory syndrome, Muckle–Wells syndrome, and neonatal-onset multisystem inflammatory disease. On September 2016, FDA approved the use of canakinumab on 3 additional rare and serious auto-inflammatory diseases:^[6] Tumor Necrosis Factor Receptor Associated Periodic Syndrome (TRAPS), Hyperimmunoglobulin D Syndrome (HIDS)/Mevalonate Kinase Deficiency (MKD) and Familial Mediterranean Fever (FMF).

Canakinumab was being developed by Novartis for the treatment of rheumatoid arthritis but this trial was completed in October 2009.^[7] Canakinumab is also in phase I clinical trials as a possible treatment for chronic obstructive pulmonary disease,^[8] gout and coronary artery disease. It is also in trials for Schizophrenia.^[9] In gout it may result in better outcomes than a low dose of a steroid but costs five thousand times more.^[10]

1 References

[1] PMID 26284424

- [2] Dhimolea, Eugen (2010). “Canakinumab”. *MAbs*. **2** (1): 3–13. doi:10.4161/mabs.2.1.10328. PMC 2828573. PMID 20065636.
- [3] Lachmann, HJ; Kone-Paut I; Kuemmerle-Deschner JB; et al. (4 June 2009). “Use of canakinumab in the cryopyrin-associated periodic syndrome”. *New Engl J Med*. **360** (23): 2416–25. doi:10.1056/NEJMoa0810787. PMID 19494217.
- [4] “New biological therapy Ilaris approved in US to treat children and adults with CAPS, a serious life-long auto-inflammatory disease” (Press release). Novartis. 18 June 2009. Retrieved 28 July 2009.
- [5] Wan, Yuet (29 October 2009). “Canakinumab (Ilaris) and riloncept (Arcalyst) approved in EU for treatment of cryopyrin-associated periodic syndrome”. National electronic Library for Medicines. Retrieved 14 April 2010.
- [6] “FDA approves expanded indications for Ilaris for three rare diseases”. FDA News Release. 23 September 2016.
- [7] “clinicaltrials.gov, Identifier NCT00784628: Safety, Tolerability and Efficacy of ACZ885 (Canakinumab) in Patients With Active Rheumatoid Arthritis”. Retrieved 2010-08-21.
- [8] Yasothan U, Kar S (2008). “Therapies for COPD”. *Nat Rev Drug Discov*. **7** (4): 285. doi:10.1038/nrd2533.
- [9] <https://www.neura.edu.au/clinical-trial/cats/>
- [10] Sivera, F; Wechalekar, MD; Andrés, M; Buchbinder, R; Carmona, L (Sep 1, 2014). “Interleukin-1 inhibitors for acute gout.”. *The Cochrane database of systematic reviews*. **9**: CD009993. doi:10.1002/14651858.CD009993.pub2. PMID 25177840.

2 Text and image sources, contributors, and licenses

2.1 Text

- **Canakinumab** *Source:* <https://en.wikipedia.org/wiki/Canakinumab?oldid=747753648> *Contributors:* Chowbok, DePiep, Rjwilmsi, Ground Zero, SmackBot, Ohconfucius, Beetstra, Fvasconcellos, Erechtheus, Nbauman, Doc James, Blake3522, Carlo Banez, Feux04, Alexius08, MystBot, Addbot, DOI bot, Yobot, CheMoBot, Anypodetos, Aztec Master, FrescoBot, Citation bot 1, Full-date unlinking bot, BogBot, Trappist the monk, Gbilleter, RjwilmsiBot, PotatoBot, Neuraustralia, Peryeat, The chemistsd, Louisajb, Mabsedit, BG19bot, A2-33, BattyBot, Monkbot, Medgirl131 and Anonymous: 7

2.2 Images

- **File:Canakinumab_bound_to_IL-1 β .png** *Source:* https://upload.wikimedia.org/wikipedia/commons/9/95/Canakinumab_bound_to_IL-1%CE%B2.png *License:* CC BY-SA 4.0 *Contributors:* Own work *Original artist:* A2-33
- **File:Cisplatin-3D-vdW.png** *Source:* <https://upload.wikimedia.org/wikipedia/commons/7/77/Cisplatin-3D-vdW.png> *License:* Public domain *Contributors:* Own work *Original artist:* Benjah-bmm27
- **File:Inmunoglobulina.png** *Source:* <https://upload.wikimedia.org/wikipedia/commons/3/3b/Inmunoglobulina.png> *License:* Public domain *Contributors:* http://blog.wired.com/shared/image.html?photos/uncategorized/2008/08/05/igg_2.png *Original artist:* Unknown
- **File:Lock-green.svg** *Source:* <https://upload.wikimedia.org/wikipedia/commons/6/65/Lock-green.svg> *License:* CC0 *Contributors:* en:File:Free-to-read_lock_75.svg *Original artist:* User:Trappist the monk
- **File:X_mark.svg** *Source:* https://upload.wikimedia.org/wikipedia/commons/a/a2/X_mark.svg *License:* Public domain *Contributors:* Own work *Original artist:* User:Gmaxwell
- **File:Yes_check.svg** *Source:* https://upload.wikimedia.org/wikipedia/en/f/fb/Yes_check.svg *License:* PD *Contributors:* ? *Original artist:* ?

2.3 Content license

- Creative Commons Attribution-Share Alike 3.0