

# Curriculum Vitae: Charles E Egwuagu

Chief, Molecular Immunology Section, Laboratory of Immunology

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## Web Page

<https://irp.nih.gov/pi/charles-egwuagu>

## Education:

**Ph.D. Epidemiology and Microbiology**

Yale University, The Graduate School, New Haven, Connecticut 06520

**Master of Public Health (M.P.H.) Infectious Disease Epidemiology**

Yale University School of Medicine, New Haven, Connecticut 06510

**M.Phil. Molecular Epidemiology (Concentration: Immunology, Virology and Parasitology)**

Yale University, The Graduate School, New Haven, Connecticut 06520

## Scientific Career

**2013-2019:** Standing member of the Cellular & Molecular Immunology NIH Study Section

**2007-2012:** National Institutes of Health (NIH) Central Tenure Committee

**1999-Present: Senior Investigator (Tenured) & Chief, Molecular Immunology Section**

Laboratory of Immunology, National Eye Institute, National Institutes of Health

**1990-1999: Commissioned Officer, United States Public Health Service**

Duty Station: National Eye Institute, National Institutes of Health, Bethesda, Maryland, USA.

Category: Scientist (Research Officers Group). Rank: Promoted to Captain (06)-June 2000

## Professional Affiliations:

United States Public Health Service Professional Association.

Association for Research in Vision and Ophthalmology.

American Association for the Advancement of Science.

American Association of Immunologists (AAI).

## Bibliography

### Representative Publications

Houston S. (2020). Charles E. Egwuagu: Going with the flow. *J Exp Med*. 217(11):e20202154. doi: 10.1084/jem.20202154.PMID: 33095234

Kang M, Choi JK, Jittayasothorn Y, Egwuagu CE. (2020). Interleukin 35-producing Exosomes Suppress Neuroinflammation and Autoimmune Uveitis. *Front Immunol*. 11:1051.

Choi JK, Egwuagu CE. (2020). Interleukin 35 Regulatory B cells. *J Mol Biol*. 433(1):166607. doi: 10.1016/j.jmb.2020.07.019

Oladipupo F, Yu CY, Olumuyide E, Jittayasothorn Y and Egwuagu CE. (2020) STAT3 deficiency in B cells exacerbates uveitis by promoting expansion of pathogenic lymphocytes and suppressing regulatory B cells (Bregs) and Tregs. *Sci Rep*. 10(1):16188. doi:10.1038/s41598-020-73093-1

Wang RX, Yu CR, Dambuzza IM, Mahdi RM, Dolinska MB, Sergeev YV, Wingfield PT, Kim SH, Egwuagu CE. (2014). Interleukin-35 induces regulatory B cells that suppress autoimmune disease *Nat Med*. 20(6):633-41.

Dambuzza IM, He C, Choi, JK, Yu CR, Wang R, Mattapallil MJ, Wingfield PT, Caspi RR, and Egwuagu CE. (2017). IL-12p35 induces expansion of IL-10- and IL-35-expressing regulatory B cells (Bregs) and ameliorates autoimmune disease. *Nat Commun*. 8(1):719. doi: 10.1038/s41467-017-00838-4.

Amadi-Obi A, Yu CR, Liu X, Mahdi RM, Clarke GL, Nussenblatt RB, Gery I, Lee YS and Egwuagu CE. (2007). T<sub>H</sub>17 cells are expanded by IL-2 in Uveitis or Scleritis and inhibited by IL-27/STAT1-dependent mechanisms. *Nature Medicine*. 13(6):711-718.

Evans MK, Yu CR, Lohani A, Mahdi RM, Liu X, Trzeciak AR, Egwuagu CE. (2007). Expression of SOCS1 and SOCS3 genes is differentially regulated in breast cancer cells in response to proinflammatory cytokine and growth factor signals. *Oncogene*. 26:1941-8

Liu X, Mameza MG, Lee YS, Eseonu CI, Yu CR, Kang-Derwent JJ, and Egwuagu CE. (2008). Suppressors of Cytokine Signaling (SOCS) Proteins Induce Insulin-Resistance in the Retina and Promote Survival of Retinal Cells. *Diabetes*. 57:1651-8.

Choi JK, Dambuzza IM, He C, Yu CR, Uche AN, Mattapallil MJ, Caspi RR, and Egwuagu CE. IL-12p35 Inhibits Neuroinflammation and Ameliorates Autoimmune Encephalomyelitis. *Frontiers In Immunology*. 8:1258. doi: 10.3389.

Wang L, Yu CR, Kim HP, Liao W, Telford WG, Egwuagu CE, Leonard WJ. (2011) Key role for IL-21 in experimental autoimmune uveitis. *Proc Natl Acad Sci USA*. 108:9542-7.

Egwuagu C, Yu CR, Amadi-Obi A, Liu X, Mahdi R, Lee YS. (2007). TH17 cells contribute to uveitis and scleritis and are inhibited by IL-27/STAT1 in the retina (5) Chromatin immunoprecipitation. *Nature Protocols*. 2 /nprot.2007.384

Egwuagu CE, Yu CR, Sun L, Wang R. 2015. Interleukin 35: Critical regulator of immunity and

lymphocyte-mediated diseases. *Cytokine Growth Factor Rev.* 2015 26:587-93.

, C.E., Charukamnoetkanok, P. and Gery, I. (1997). Thymic Expression of Autoantigens Correlates with Resistance to Autoimmune Disease. *J. Immunol. (Cutting Edge Paper)* 159: 3109-3112.

Egwuagu CE, Li W, Yu CR, Che Mei Lin M, Chan CC, Nakamura T, Chepelinsky AB. (2006). Interferon-gamma induces regression of epithelial cell carcinoma: critical roles of IRF-1 and ICSBP transcription factors. *Oncogene.* 25:

St Leger AJ, Hansen AM, Karauzum H, Horai R, Yu CR, Laurence A, Mayer-Barber KD, Silver P, Villasmil R, Egwuagu C, Datta SK, Caspi RR. (2018). STAT-3-independent production of IL-17 by mouse innate-like  $\alpha\beta$  T cells controls ocular infection. *J Exp. Med.* 215:1079-1090.

Oh HM, Yu CR, YongJun Lee Y, Chan CC, Maminishkis A and Charles E. Egwuagu CE. (2011) Autoreactive Memory CD4<sup>+</sup> T Lymphocytes that mediate Chronic Uveitis Reside in the Bone Marrow through STAT3-dependent Mechanisms. *J Immunol.* 187:3338-46

Oh HM, Yu CR, Golestaneh N, Amadi-Obi A, Lee YS, Eseonu A, Mahdi RM, Egwuagu CE. (2011). STAT3 promotes T cell survival and inhibits IL-2 production through up-regulation of Class O Forkhead transcription factors. *J Biol Chem.* 286:30888-97.

Liu X, Lee YS, Yu CR, and Egwuagu CE. (2008). Loss of STAT3 in CD4<sup>+</sup> T cells prevents development of experimental autoimmune diseases. *J Immunol.* 180:6070-6.