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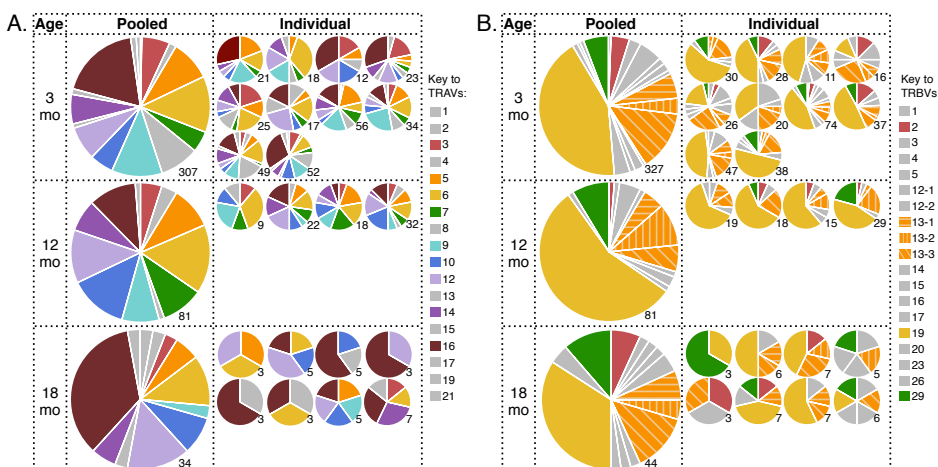
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CD8+ T cell immunity is critical for the effective elimination of viruses. Our research utilizes advanced cellular and molecular approaches to interrogate the key determinants of effective CD8+ T cell responses to virus infection; namely those controlling CD8+ T cell recognition of virus, anti-viral CD8+ T cell magnitude, and T cell effector function. Understanding these determinants confer optimal immunity also allows us to perform targeted analyses of CD8+ T cell dysfunction, such as that observed with advanced age.

## Research Projects

1. Cellular and molecular analysis of ageing in CD8+ T cells
2. The influence of thymic selection on virus-specific CD8+ T cell populations
3. Unravelling antiviral CTL response determinants



## Selected significant publications:

1. Quinn KM, Zaloumis SG, Cukalac T, Kan WT, Sng XY, Mirams M, Watson KA, McCaw JM, Doherty PC, Thomas PG, Handel A, **La Gruta NL**. 2016. 1. Heightened self-reactivity associated with selective survival, but not expansion, of naïve virus-specific CD8+ T cells in aged mice. *Proc Natl Acad Sci* 113(5):1333-8.
2. Tschärke DC, Croft NP, Doherty PC, **La Gruta NL**. 2015. Sizing up the key determinants of the CD8 (+) T cell response. *Nat Rev Immunol* 15(11):705-16.
3. Cukalac T, Kan WT, Dash P, Guan J, Quinn KM, Gras S, Thomas PG, **La Gruta NL**. 2015. Paired TCRαβ analysis of virus-specific CD8(+) T cells exposes diversity in a previously defined 'narrow' repertoire. *Immunol Cell Biol* 93(9):804-14.
4. Cukalac T, Chadderton J, Zeng W, Cullen JG, Kan WT, Doherty PC, Jackson DC, Turner SJ, **La Gruta NL**. 2014. The influenza virus-specific CTL immunodominance hierarchy in mice is determined by the relative frequency of high-avidity T cells. *J Immunol* 192(9):4061-8.
5. **La Gruta NL**, Rothwell WT, Cukalac T, Swan NG, Valkenburg SA, Kedzierska K, Thomas PG, Doherty PC, Turner SJ. 2010. Primary CTL response magnitude in mice is determined by the extent of naïve T cell recruitment and subsequent clonal expansion. *J Clin Invest* 120(6):1885-94.