

Self/non- self discrimination by the immune system

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Immune responses against pathogens (virus, bacteria...) are highly orchestrated processes involving multiple cell types that circulate in the blood, exchange information through cell-cell interactions and soluble factors, migrate into organs and tissues and acquire the ability to eradicate infected cells.

But the immune system faces a tough challenge: mounting aggressive responses against non self (a virus for example) while sparing our own tissues and organs. We will illustrate some of the strategies developed by the immune system to discriminate self from non-self. We will also discuss how new imaging technologies can help understand the success and the failure of the immune system when fighting infections and cancers.