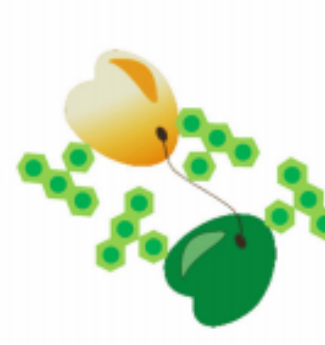


Research (What is it about?)	Target antibodies for autoimmune therapy
UNN authors	<i>Mokhonov V., Nedospasov S.</i>
We find (The result)	We produced specific antibodies against proinflammatory cytokines which neutralize them directly in specific populations of leukocytes and macrophages, thus avoiding unwanted side effects in anti-cytokine therapy
Abstract	<p>Cytokines are a broad category of small proteins that are important in cell signaling. Their release has an effect on the behavior of cells around them. Proinflammatory cytokines, such as tumor necrosis factor (TNF), play pathogenic roles in multiple diseases and are attractive targets for biologic drugs. However, proinflammatory cytokines possess immunoregulatory functions as well, so their systemic neutralization carries the potential for unwanted side effects. Therefore, next-generation anti-cytokine therapies would seek to selectively neutralize pathogenic cytokine signaling, leaving normal function intact.</p> <p>We found that TNF produced by myeloid cells is pathogenic in several experimental mouse disease models. We produced specific myeloid cell-specific TNF inhibitor (MYSTI) directed against abundant surface molecules only on myeloid cells and serve to limit the bioavailability of TNF produced by these cells.</p> <p>So such reagents may become prototypes of a novel class of anti-cytokine drugs in treating autoimmune and other diseases when antibodies act predominantly on pathogenic sources of cytokine, at least in a particular disease or disease state.</p>

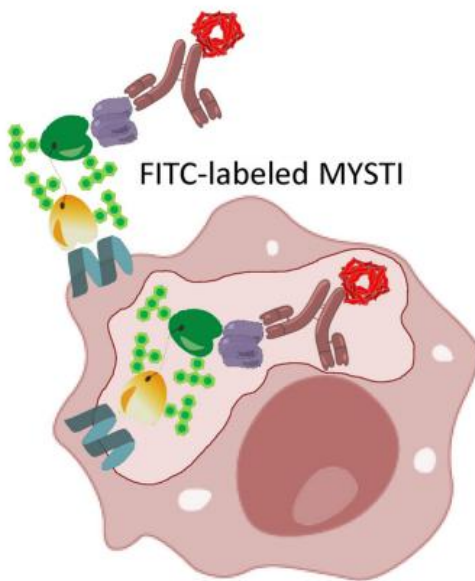
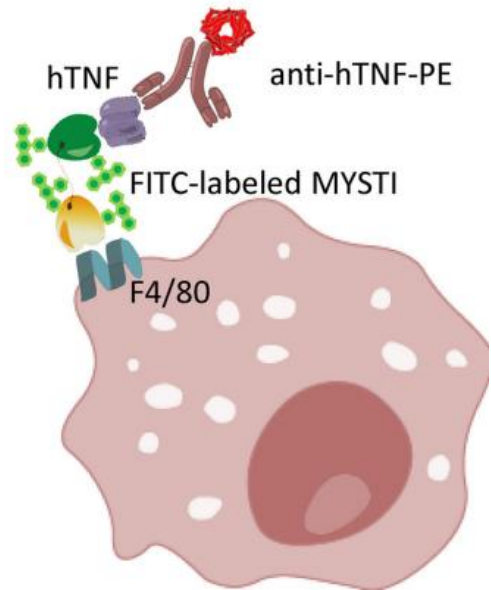
Representative articles 2017-2018, quartiles	1. <i>Nosenko M.A., Atrekhany K.N., Mokhonov V.V., Efimov G.A., Kruglov A.A., Tillib S.V., Drutskaya M.S., Nedospasov S.A.</i> VHH-based bispecific antibodies targeting cytokine production. <i>Front. Immunol.</i> 8 :1073 (2017).	Q1
Q-index (Qi) for the result		4
high blue		

In collaboration	<p>Engelhardt Institute of Molecular Biology RAS, Moscow 119991, Russia</p> <p>Lomonosov Moscow State University, Moscow 119991, Russia</p> <p>National Research Center for Hematology, Moscow 125167, Russia</p> <p>German Rheumatism Research Center, Leibniz Institute, Berlin, Germany</p> <p>Institute of Gene Biology RAS, Moscow 119334, Russia</p>
------------------	--



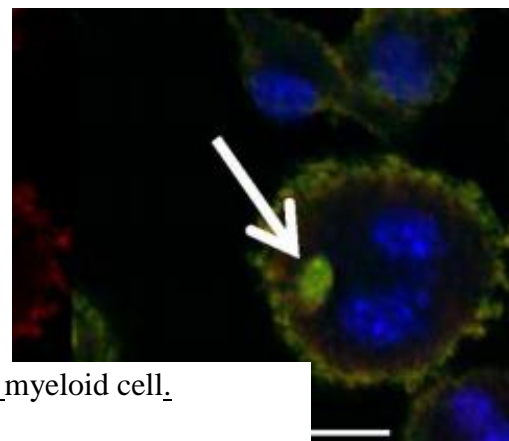
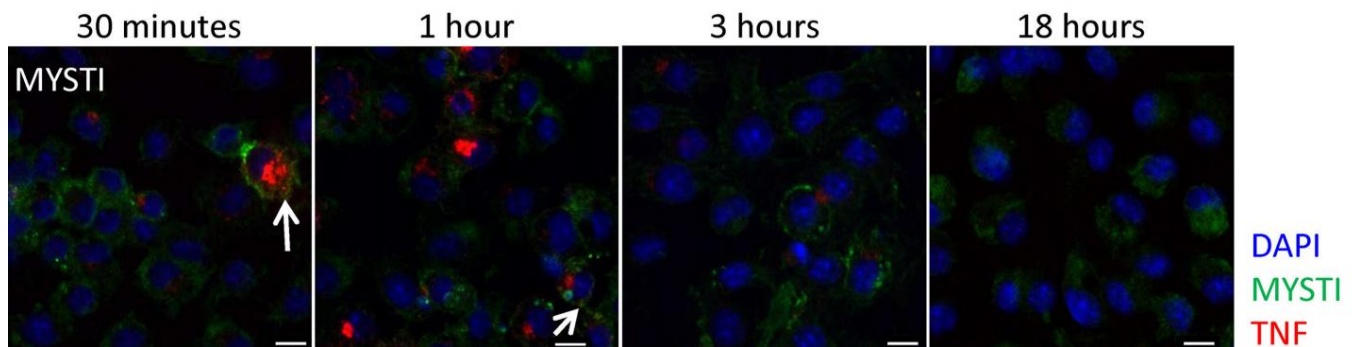
Specific antibody (MYSTI), binding with fluorescent marker (green dots). The active center of MYSTY which interacted with myeloid cell is yellow while the green one is the center which binds TNF.

MYSTY interacts with myeloid cell. The attached TNF inhibitor is marked red.



MYSTI internalized by myeloid cell.

The dynamics of MYSTI impact on TNF *in vitro*. The participants of the process are color marked (DAPI is fluorescent marker of DHA).



MYSTI in myeloid cell.