

Interferon-stimulated gene 15 (ISG15) deficiency in dendritic cells protects against contact hypersensitivity (CHS) inflammation in mouse.

Francisco Sánchez-Madrid¹, Irene Fernández-Delgado¹, Raquel Castillo-González¹, Raúl Izquierdo-Serrano¹, Elena Moya-Ruiz¹, Marta Ramírez-Huesca¹, Olga Moreno-Gonzalo¹, Ana Rodríguez-Galán¹, Nieves Fernández-Gallego Anaya¹, Alberto Fernández-Bernaldez², Javier Sanchez-Perez², Danay Cibrian¹, Hortensia de la Fuente², and Susana Guerra³

¹Centro Nacional de Investigaciones Cardiovasculares Carlos III

²Universidad Autonoma de Madrid

³Universidad Autonoma de Madrid Departamento de Medicina Preventiva y Salud Publica y Microbiologia

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Abstract

The role of ISG15 (Interferon-Stimulated Gene 15) is becoming increasingly acknowledged in cancer, pathogen infection and inflammatory immune diseases. ISG15 expression increases in human psoriatic skin, and genetic mutations of ISG15 cause dermatological alterations. Here, we show that ISG15 deficiency leads to reduced inflammation and swelling in a murine model of allergic contact dermatitis (ACD). Bone marrow transplantation and adoptive transfer approaches demonstrate that ISG15 alters dendritic cell (DC) responses in the ACD mouse model. Consistently, *Isg15*-deficient DCs secrete reduced amounts of pro-inflammatory cytokines, including IL-1 β and IL-12. This study opens new avenues to potentiate immunotherapies to treat immune-related dermatological disorders.

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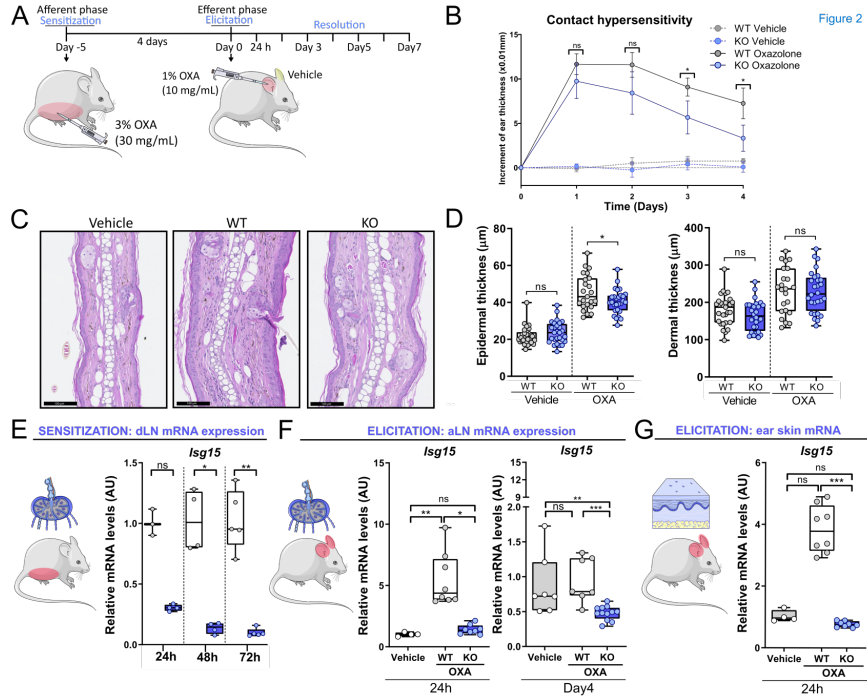


Figure 2

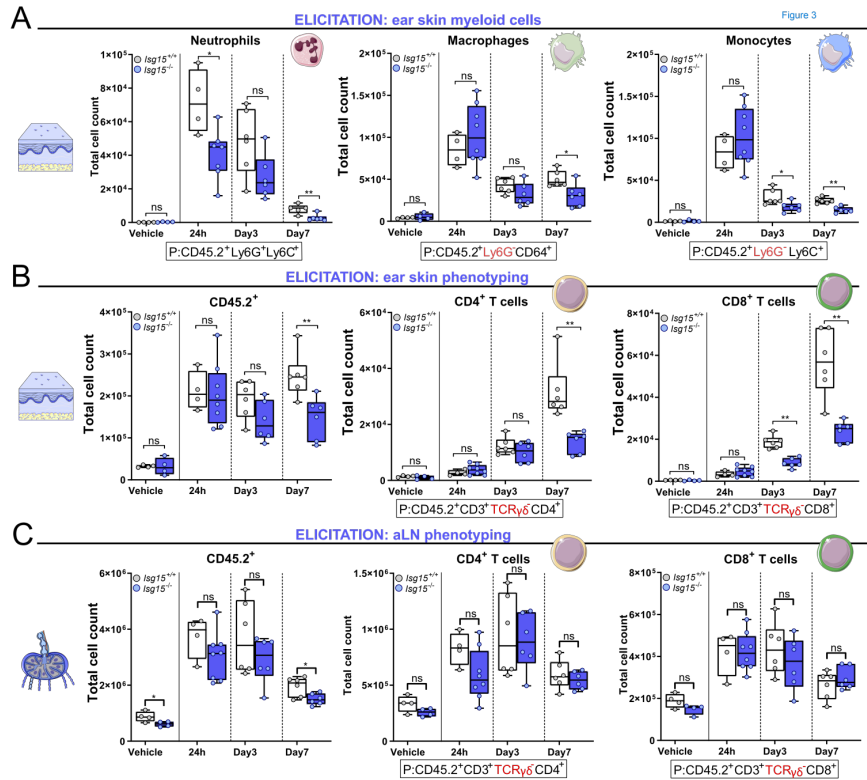


Figure 3

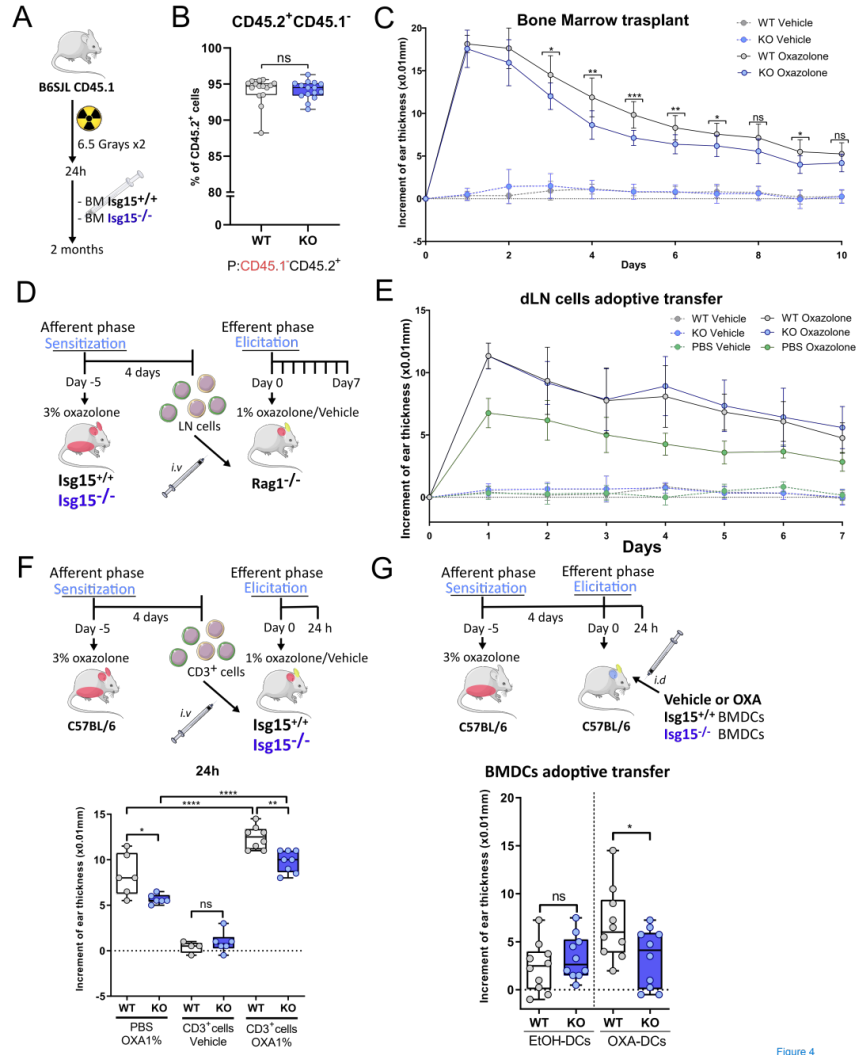


Figure 4

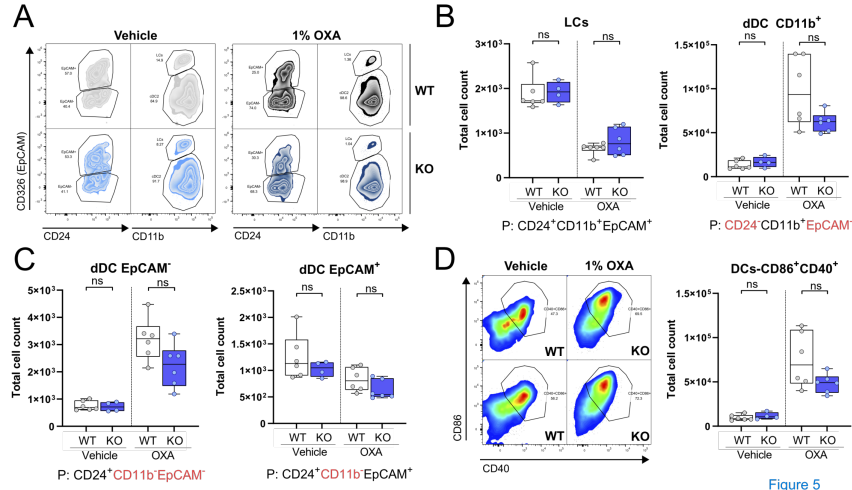


Figure 5

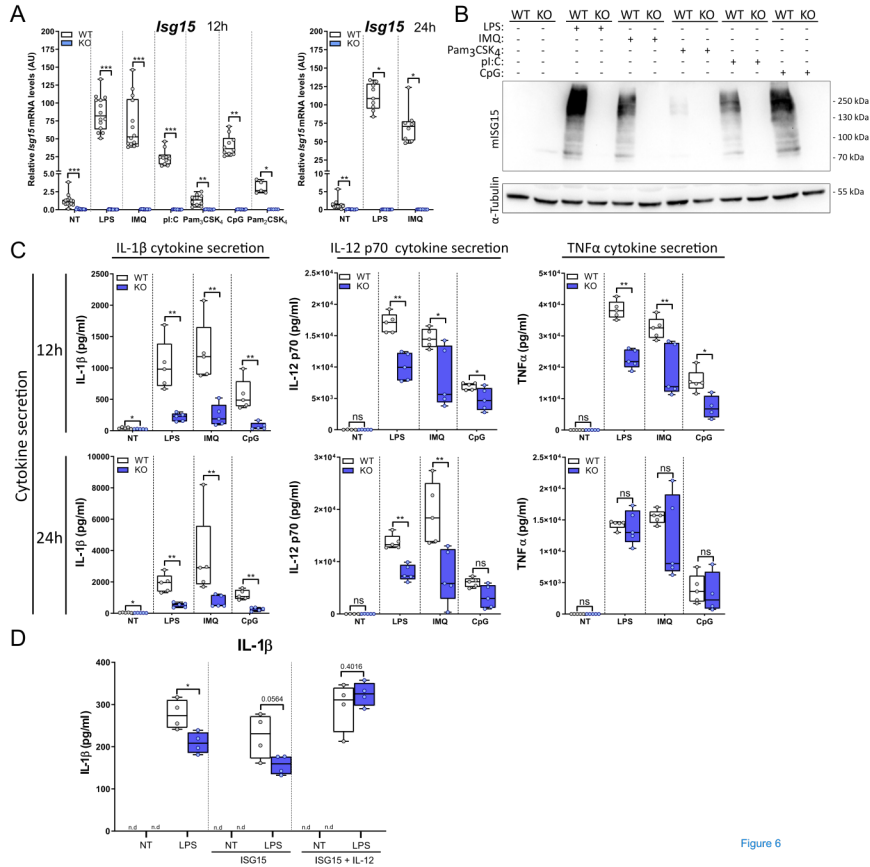
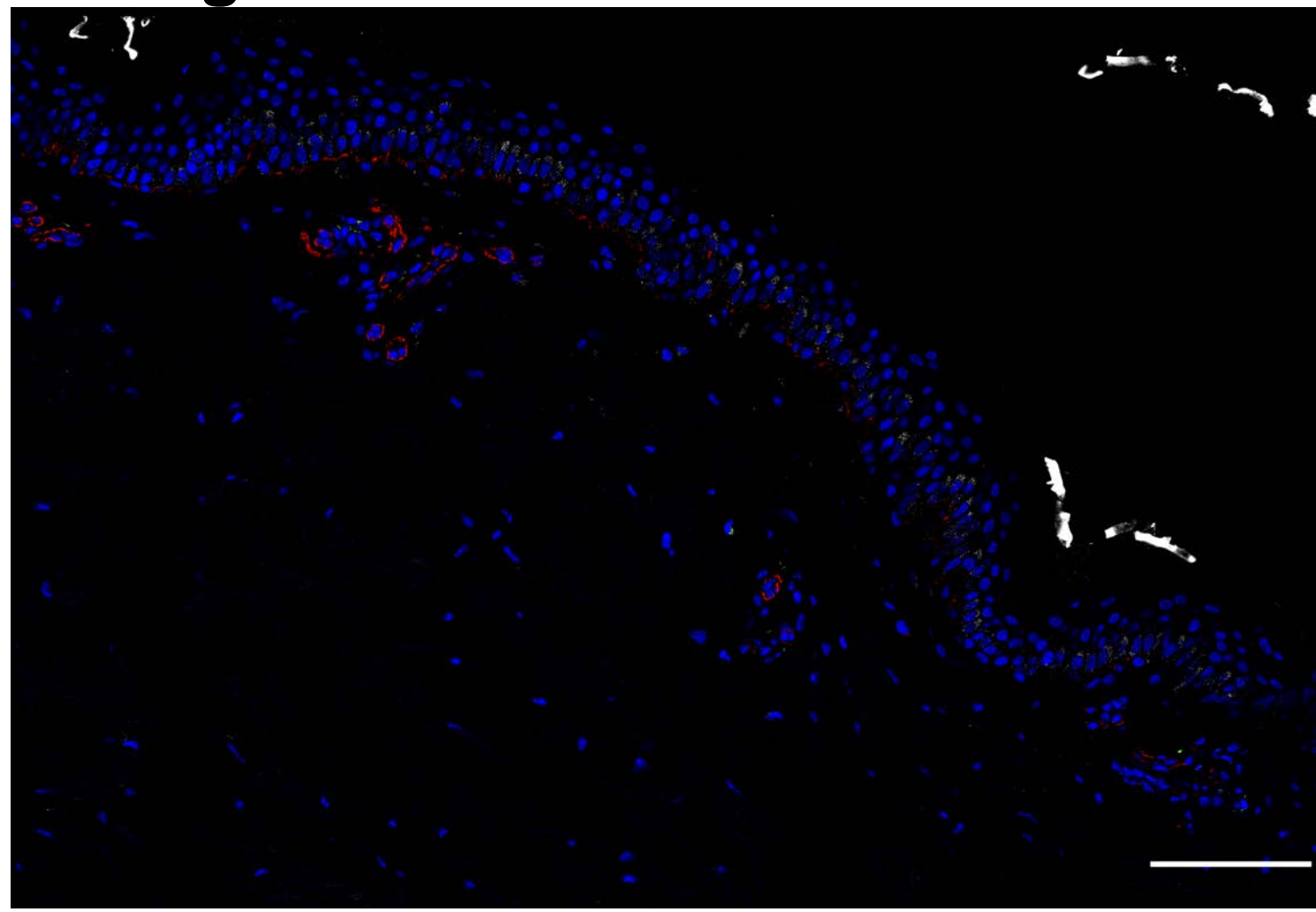


Figure 6

Merge: **CD45** **CD49f** ISG15 **DAPI**

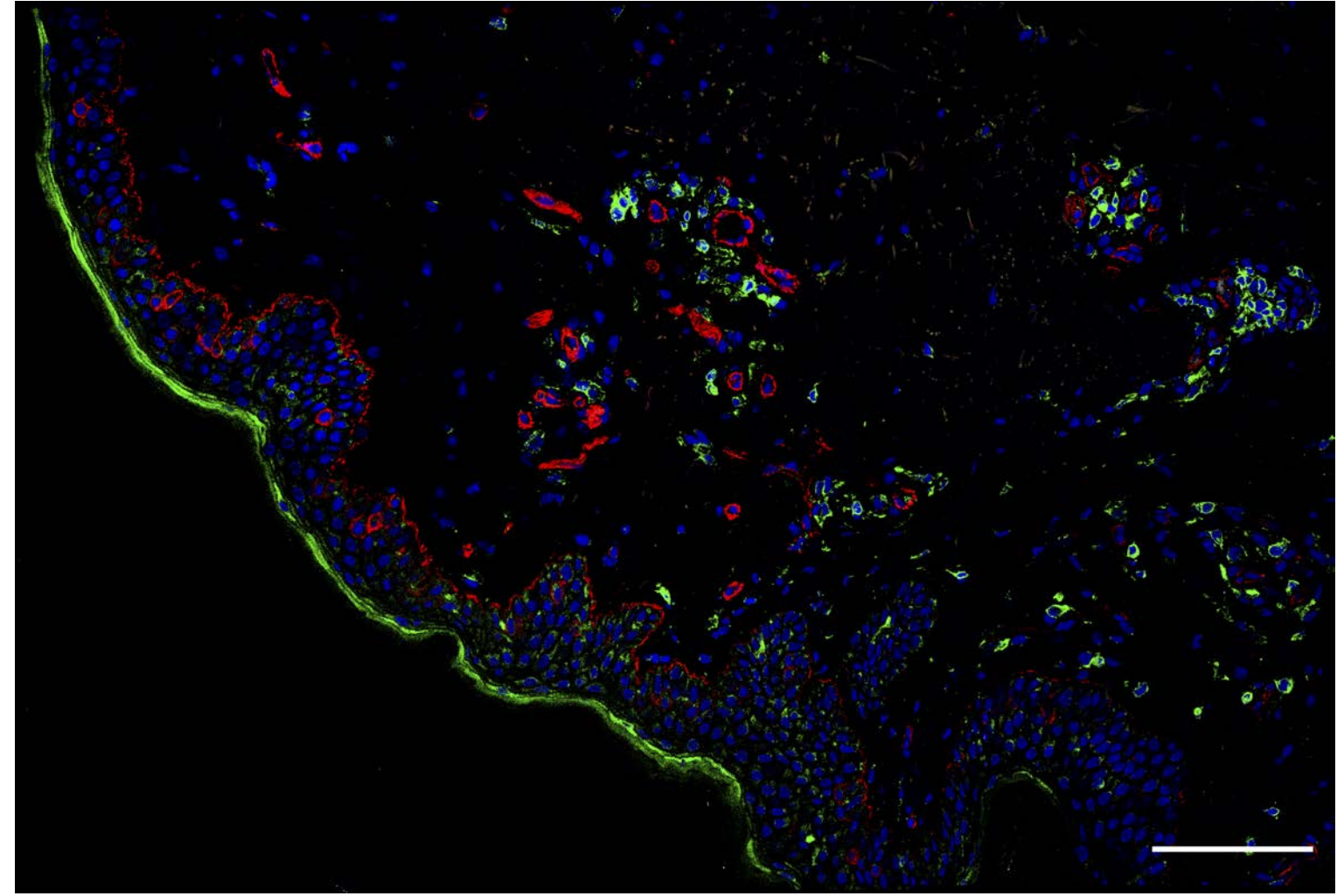
Healthy



ISG15



Merge: **CD45** **CD49f** ISG15 **DAPI**



Non-lesional skin

Lesional skin

