

Dong-Ming Su, PhD
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Microbiology, Immunology & Genetics
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Area of Expertise

The strength of our research projects is using and generating genetically-engineered animal models in understanding genetic and epigenetic regulation of the T-cell immune system and its microenvironment during aging. Our aim is to determine mechanistic insights into poor (immunosenescence) and harmful (autoimmune) T-cell immunity in the elderly for developing rejuvenation strategies to combat age-related chronic inflammatory diseases and cancer recurrence. Our current NIH- & AAI-funded and potentially NIH-funded projects include: "Balance of thymic negative selection vs. Treg cell generation in the elderly (NIH-funded R01)"; "Biased Treg TCR specificity and its impact on immunity in the elderly (Potential NIH R01)"; and "Role of the central immune organ in cancer chemoimmunotherapy (AAI-funded fellowship).

Qualifications

PhD in Molecular Biology & Immunology, Kyushu University
MS in Infectious Immunology, Lanzhou Medical College

Recent Publications

Editorial: New Insights Into Thymic Functions During Stress, Aging, and in Disease Settings

van Oers, N. S. C., Su, D. M., Chidgey, A. P. & Dudakov, J., 22 Oct 2020, In: *Frontiers in Immunology*. 11, 591936.

Thymic rejuvenation via FOXP1 reprogrammed embryonic fibroblasts (FREFs) to counteract age-related inflammation

Oh, J., Wang, W., Thomas, R. & Su, D. M., Aug 2020, In: *JCI Insight*. 5, 18, e140313.

Thymic Function Associated With Cancer Development, Relapse, and Antitumor Immunity – A Mini-Review

Wang, W., Thomas, R., Sizova, O. & Su, D. M., 30 Apr 2020, In: *Frontiers in Immunology*. 11, 773.

Contributions of Age-Related Thymic Involution to Immunosenescence and Inflammaging

Thomas, R., Wang, W. & Su, D. M., 20 Jan 2020, In: *Immunity and Ageing*. 17, 1, 2.

Atrophied thymus, a tumor reservoir for harboring melanoma cells

Sizova, O., Kuriatnikov, D., Liu, Y. & Su, D. M., Nov 2018, In: *Molecular Cancer Research*. 16, 11, p. 1652-1664 13 p.

Extracellular vesicles extracted from young donor serum attenuate inflammaging via partially rejuvenating aged T-cell immunotolerance

Wang, W., Wang, L., Ruan, L., Oh, J., Dong, X., Zhuge, Q. & Su, D. M., Nov 2018, In: *FASEB Journal*. 32, 11, p. 5899-5912 14 p.

Capacity of tTreg generation is not impaired in the atrophied thymus

Oh, J., Wang, W., Thomas, R. & Su, D. M., 8 Nov 2017, In: *PLoS Biology*. 15, 11, e2003352.

Impact of aging immune system on neurodegeneration and potential immunotherapies

Liang, Z., Zhao, Y., Ruan, L., Zhu, L., Jin, K., Zhuge, Q., Su, D. M. & Zhao, Y., Oct 2017, In: *Progress in Neurobiology*. 157, p. 2-28 27 p.

Immune senescence: significance of the stromal microenvironment

Masters, A. R., Haynes, L., Su, D. M. & Palmer, D. B., 1 Jan 2017, In: *Clinical and Experimental Immunology*. 187, 1, p. 6-15 10 p.

A fine-tune role of Mir-125a-5p on Foxn1 during age-associated changes in the thymus
Xu, M., Sizova, O., Wang, L. & Su, D. M., 2017, In: Aging and Disease. 8, 3, p. 277-286 10 p.

Sponsored Projects

Balance of Thymic Negative Selection vs. Treg Cell Generation in the Elderly

Su, D.
NIAID: Allergy and Infectious Diseases
1/12/15 → 30/11/20

Balance of Thymic Negative Selection vs. Treg Cell Generation in the Elderly

Su, D.
National Institute of Allergy and Infectious Diseases
1/12/15 → 30/11/21

Establish PCR Condition to determine p53 gene conditional deletion (For: Chandani Patel)

Su, D.
Intramural Research(UNTHSC)
5/06/17 → 31/05/18

Genotyping of FF/FC conditional knock-out mice (For: Bunnarack Kuch)

Su, D.
Intramural Research(UNTHSC)
5/06/17 → 31/05/18

lymphostromal interactions in the thymic aging

Su, D., SU, D. & SU, D.
National Institute on Aging
1/06/09 → 30/11/11

Lymphostromal Interactions in the Thymic Aging

Su, D.
NIA: National Institute on Aging
1/10/10 → 30/11/11

Molecular basis for age-related thymic involution and rejuvenation

Su, D., SU, D., SU, D. & SU, D.
National Institute of Allergy and Infectious Diseases
1/03/09 → 29/02/16

Molecular Basis for Age-Related Thymic Involution and Rejuvenation

Su, D.
NIAID: Allergy and Infectious Diseases
1/10/10 → 28/02/15

Molecular Basis for Age-Related Thymic Involution and Rejuvenation

Su, D.
NIAID: Allergy and Infectious Diseases
9/08/12 → 28/02/15

Molecular Basis for Age-Related Thymic Involution and Rejuvenation for Moshir Rahman

Su, D.
NIAID: Allergy and Infectious Diseases
1/10/10 → 29/08/12

Molecular basis for age-related thymic involution and rejuvenation (R01AI081995)

Su, D.

NIAID: Allergy and Infectious Diseases

1/03/13 → 28/02/15

Molecular Regulation of Aging Thymus Atrophy

Su, D., SU, D., SU, D. & SU, D.

National Institute of Allergy and Infectious Diseases

1/04/05 → 31/03/08

mTOR Signaling and Immunomodulation after Ischemic Stroke

Jin, K. & Su, D.

Intramural Research(UNTHSC)

1/10/13 → 1/03/16

Pro-inflammatory Condition-induced Tumor Dormancy in a Pre-metastatic Reservoir: Thymus

Su, D.

American Association of Immunologists

1/09/17 → 31/08/18

Strategy for Rescuing Primary Thymic Stromal Failure

Su, D. & SU, D.

National Institute of Allergy and Infectious Diseases

17/09/08 → 31/08/11

Thymic Involution Perturbs Negative Selection Leading to Autoreactive T Cells That Induce Chronic Age-related Inflammation (For: Brandon Coder)

Su, D.

Intramural Research(UNTHSC)

1/01/15 → 31/08/16