

Typhanie Dumontet, Ph.D.
Research Investigator
Department of Internal Medicine
Division Metabolism, Endocrinology & Diabetes
Biomedical Science Research Building
Ann Arbor, MI, USA

Education and Training

Education

09/2011-06/2013 Masters, Research, Molecular Genetics and Physiology, University of Clermont Auvergne, Clermont-Ferrand, France

10/2013-09/2017 Ph.D., Molecular Genetics and Physiology, Antoine Martinez Laboratory, University of Clermont Auvergne, Clermont-Ferrand, France

Postdoctoral Training

01/2018-06/2022 Postdoctoral Research, Gary Hammer Laboratory, Division Metabolism Endocrinology & Diabetes, University of Michigan, Internal Medicine, Ann Arbor, Michigan

Work Experience

Academic Appointment

07/2022-Present Research Investigator, Gary Hammer Laboratory, Internal Medicine, Division of Metabolism, Endocrinology & Diabetes, University of Michigan, Ann Arbor, Michigan

Research Position

10/2017-12/2017 Engineer, Antoine Martinez Laboratory, Molecular Pathophysiology of Adrenal & Endocrine Tissues, National Institute for Health and Medical Research (INSERM) UMR CNRS 6293 INSERM U1103, Clermont-Ferrand, France

Research Interests

- Elucidating the molecular mechanisms regulating the adrenal gland differentiation and its endocrine function
- Combining the use of transgenic mouse models with single cell approaches to identify cell type specific disease mechanisms

Grants

Current Grants

R01DK062027: *Mechanisms of Adrenal Differentiation*:
Co-I (Principal Investigator: Gary Hammer)
NIH-DHHS-US
04/2024 - 03/2029
\$2,415,060

Past Grants

Transcriptional programs involved in ACTH-induced hyperplasia - Implication of the transcription factor Hhex in adrenal differentiation and response to chronic hormonal challenges:

Co-I (Principal Investigator: Gary Hammer)
International Fund Congenital
03/2021 - 07/2023
\$162,073

Honors and Awards

International

2013 - 2016	Ph.D. Grant Funding, French National Institute of Health and Medical Research
2014	Oral Presentation Prize, The French Endocrine Society, France, 31st Conference of French Endocrine Society, Lyon
2016	Oral Presentation Prize, The French Endocrine Society, France, 33rd Conference of French Endocrine Society, Bordeaux
2016 - 2017	Ph.D. Grant Funding, The Association for Research Against Cancer (ARC)
2022	Young Investigator Award, The European Society of Endocrinology, Italy, Milan

National

2016	New Investigator Award, 17th Adrenal Cortex Conference, United States, Boston
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Institutional

2020 - 2021	Dean's Non-Traditional Postdoctoral Fellowship, The Center for Organogenesis
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Study Sections, Editorial Boards, Journal & Abstract Review

Study Sections

International

2019	Training application fellowship grant review, Action Medical Research, United Kingdom
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National

2025	Abstract reviewer for the National conference on undergraduate research (NCUR)
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Institutional

2020	Reviewer for Outstanding Postdoctoral Fellow Award, University of Michigan
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Editorial Boards / Journal & Abstract Reviews

Journal Review

2017 - Present	Development (Ad Hoc)
2018 - Present	Faseb (Ad Hoc)
2019 - Present	Journal of Clinical Investigation (Ad Hoc)
2019 - 2021	Journal of Steroid Biochemistry and Molecular Biology (Ad Hoc)
2019 - 2023	Molecular and Cellular Endocrinology (Ad Hoc)
2020 - Present	The Journal of Stress
2021 - Present	Journal of Steroid Biochemistry and Molecular Biology
2021 - Present	Journal of Clinical Endocrinology and Metabolism (Ad Hoc)
2022 - Present	JCI Insight
2022 - Present	Review of Endocrinology and Metabolic disorders
2022 - Present	International Journal of Cancer

2022 - Present	International Journal of Molecular Sciences
2022 - Present	Endocrinology
2023 - Present	Cancer
2023 - Present	Life
2023 - Present	Tissue and Cell
2024 - Present	Molecular and Cellular Endocrinology
2024 - Present	Cells

Teaching

Mentorship

Undergraduate Student

01/2015-12/2015	Marie Anaïs Locquet, University Clermont-Auvergne, France, Antoine Martinez' laboratory, Current post-doctoral research fellow at the Dana Farber Cancer Institute, Boston, Massachusetts, USA, after a Ph.D. at Léon Bérard Center, Lyon, France
01/2019-01/2020	Dominique Johnson, University of Michigan, Internal Medicine/MEND, Dominique Johnson. Undergraduate student at the time. Previously attended a graduate research program at Mayo Clinic, USA. Currently attending UofM Medical School
01/2021-01/2023	Kyle Heard, The University of Michigan, Internal Medicine/MEND, UROP student (Undergraduate Research Opportunity Program) 2022: presented at the National Conference of Undergraduate Research 2022: presented at the MRADS Symposium (Michigan Research and Discovery Scholars) 2022: was awarded the UROP Biomedical & Life Sciences Summer Research Fellowship 2022: presented to UROP Summer Symposium 2023: presented at NCUR (National Conference on Undergraduate Research), Wisconsin, USA 2023: selected for RISE DAAD Program (Summer Internship in Germany for North American), Dusseldorf, Germany
01/2021-01/2023	Emma Silverman, The University of Michigan, Internal Medicine/MEND, Current Undergraduate student
01/2022-03/2025	Micah Foster, The University of Michigan, Internal Medicine/MEND, UROP student (Undergraduate Research Opportunity Program) 2023: presented at UROP Research Symposium and was awarded Blue Ribbon. 2024: presented at UROP Research Symposium and was awarded Blue Ribbon
01/2023-Present	Maria Lopez Linares Perez, The University of Michigan, Internal Medicine/MEND, (Lab assistant). Undergraduate student

Teaching Activity

International

01/2011-01/2012	Courses for Undergraduate students, University of Clermont: 1 hour/week; Approaches and Methods for academic achievements, University of Clermont, Instructor
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Institutional

01/2021-01/2021	Developing Future Biologists, University of Michigan, Fall Research Symposium and Rogel Cancer Center, Speaker
06/2023-Present	Adrenal Bootcamp. University of Michigan. Mammalian Adrenal Development and

Memberships in Professional Societies

2014 - 2017	Member, The French Endocrine Society
2019	Member, The American Endocrine Society
2021 - 2022	Member, The European Endocrine Society
2022	Member, The American Endocrine Society
2024	Member, The American Endocrine Society
2024	Member, The European Endocrine Society
2024	Member, Single Cell Spatial Analysis Program (SCSAP)

Committee/Service

International

2024	Adrenal Development & Differentiation, Judge, XIX International Adrenal Meeting, Member
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Institutional

2014	Graduate School Day, University of Clermont Auvergne, France, Member
2021	Emerging Concepts in Cell Signaling, Regulation, and Science Education, University of Michigan, Center for Plasticity and Organ Design (CPOD), Member
2023	UROF Research Symposium, Judge, University of Michigan, Member

Volunteer Service

Volunteer

2015	Participant, University Clermont, Participated to Science Day at the University Clermont Auvergne, France
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Scholarly Activities

Presentations

Extramural Invited Presentation

Speaker

1. A New Hypothesis in the Pathophysiology of Primary Pigmented Adrenal Dysplasia: An Alteration of SUMOylation, **Dumontet T**, 21st COMETE Meeting, 01/2013, Paris, France
2. SUMOylation and Pathophysiology of Adrenal Micronodular Hyperplasia, **Dumontet T**, 22nd COMETE Meeting, 01/2014, Paris, France
3. Origin of Adrenal Tumors in PPNAD Mouse Genetic Models, **Dumontet T**, Carney Meeting, 01/2015, Paris, France
4. PKA-Dependent Regulation of SUMOylation in the Pathophysiology of Adrenal Hyperplasia, **Dumontet T**, XVIIth Adrenal Cortex Conference, 01/2016, Boston, USA
5. Forced Activation of PKA in Adult Cortex Lineage Induces Cushing Syndrome and Reticularis-Like Differentiation, **Dumontet T**, Carney Meeting, 01/2016, Paris, France
6. Adrenocortical differentiation : New Insights Into Transcriptional Programs and Cellular Heterogeneity, **Dumontet T**, Endocrine Society, 06/2024, Boston
7. Novel Regulators of zF Development and Function, **Dumontet T**, International Adrenal Meeting 2024, 06/2024, Boston

Publications/Scholarship

(Co-First Author *; Corresponding author **; Co-Last author ***)

Peer-Reviewed

Journal Article

1. de Joussineau C, Sahut-Barnola I, Tissier F, **Dumontet T**, Drelon C, Batisse-Lignier M, Tauveron I, Pointud J-C, Lefrançois-Martinez A-M, Stratakis CA, Bertherat J, Val P, Martinez A: mTOR pathway is activated by PKA in adrenocortical cells and participates in vivo to apoptosis resistance in primary pigmented nodular adrenocortical disease (PPNAD). *Hum Mol Genet.*23(20): 5418-5428, 10/2014. PM24865460
2. Just P-A, Poncy A, Charawi S, Dahmani R, Traore M, **Dumontet T**, Drouet V, Dumont F, Gilgenkrantz H, Colnot S, Terris B, Coulouarn C, Lemaigre F, Perret C: LKB1 and Notch Pathways Interact and Control Biliary Morphogenesis. *PLoS One.*10(12): e0145400, 01/2015. PM26689699
3. Vidal V, Sacco S, Rocha AS, da Silva F, Panzolini C, **Dumontet T**, Doan TM P, Shan J, Rak-Raszewska A, Bird T, Vainio S, Martinez A, Schedl A: The adrenal capsule is a signaling center controlling cell renewal and zonation through Rspo3. *Genes Dev.*30(12): 1389-1394, 06/2016. PM27313319
4. Drelon C, Berthon A, Mathieu M, Ragazzon B, Kuick R, Tabbal H, Septier A, Rodriguez S, Batisse-Lignier M, Sahut-Barnola I, **Dumontet T**, Pointud J-C, Lefrançois-Martinez A-M, Baron S, Giordano TJ, Bertherat J, Martinez A, Val P: EZH2 is overexpressed in adrenocortical carcinoma and is associated with disease progression. *Hum Mol Genet.*25(13): 2789-2800, 07/2016. PM27149985
5. Drelon C, Berthon A, Sahut-Barnola I, Mathieu M, **Dumontet T**, Rodriguez S, Batisse-Lignier M, Tabbal H, Tauveron I, Lefrançois-Martinez A-M, Pointud J-C, Gomez-Sanchez CE, Vainio S, Shan J, Sacco S, Schedl A, Stratakis CA, Martinez A, Val P: PKA inhibits WNT signalling in adrenal cortex zonation and prevents malignant tumour development. *Nat Commun.*7: 12751, 09/2016. PM27624192
6. Batisse-Lignier M, Sahut-Barnola I, Tissier F, **Dumontet T**, Mathieu M, Drelon C, Pointud J-C, Damon-Soubeyrand C, Marceau G, Kemeny J-L, Bertherat J, Tauveron I, Val P, Martinez A, Lefrançois-Martinez A-M: P53/Rb inhibition induces metastatic adrenocortical carcinomas in a preclinical transgenic model. *Oncogene.*36(31): 4445-4456, 08/2017. PM28368424
7. **Dumontet T**, Sahut-Barnola I, Septier A, Montanier N, Plotton I, Roucher-Boulez F, Ducros V, Lefrançois-Martinez A-M, Pointud J-C, Zubair M, Morohashi K-I, Breault DT, Val P, Martinez A: PKA signaling drives reticularis differentiation and sexually dimorphic adrenal cortex renewal. *JCI Insight.*3(2)01/2018. PM29367455
8. Mathieu M, Drelon C, Rodriguez S, Tabbal H, Septier A, Damon-Soubeyrand C, **Dumontet T**, Berthon A, Sahut-Barnola I, Djari C, Batisse-Lignier M, Pointud J-C, Richard D, Kerdivel G, Calmégane M-A, Boeva V, Tauveron I, Lefrançois-Martinez A-M, Martinez A, Val P: Steroidogenic differentiation and PKA signaling are programmed by histone methyltransferase EZH2 in the adrenal cortex. *Proc Natl Acad Sci U S A.*115(52): E12265-E12274, 12/2018. PM30541888
9. **Dumontet T**, Sahut-Barnola I, Dufour D, Lefrançois-Martinez A-M, Berthon A, Montanier N, Ragazzon B, Djari C, Pointud J-C, Roucher-Boulez F, Batisse-Lignier M, Tauveron I, Bertherat J, Val P, Martinez A: Hormonal and spatial control of SUMOylation in the human and mouse adrenal cortex. *FASEB J.*33(9): 10218-10230, 09/2019. PM31208233
10. Amaya JM, Suidgeest E, Sahut-Barnola I, **Dumontet T**, Montanier N, Pagès G, Keller C, van der Weerd L, Pereira AM, Martinez A, Meijer OC: Effects of Long-Term Endogenous Corticosteroid Exposure on Brain Volume and Glial Cells in the AdKO Mouse. *Front Neurosci.*15: 604103, 01/2021. PM33642975
11. Amaya JM, Viho EM G, Sips HC M, Lalai RA, Sahut-Barnola I, **Dumontet T**, Montanier N, Pereira AM, Martinez A, Meijer OC: Gene expression changes in the brain of a Cushing's syndrome mouse model. *J Neuroendocrinol.*34(4): e13125, 04/2022. PM35365898
12. Dufour D, **Dumontet T**, Sahut-Barnola I, Carusi A, Onzon M, Pussard E, Wilmoth JJ, Olabe J, Lucas C, Levasseur A, Damon-Soubeyrand C, Pointud J-C, Roucher-Boulez F, Tauveron I, Bossis G, Yeh ET, Breault DT, Val P, Lefrançois-Martinez A-M, Martinez A: Loss of SUMO-specific protease 2 causes isolated glucocorticoid deficiency by blocking adrenal cortex zonal transdifferentiation in mice. *Nat Commun.*13(1): 7858, 12/2022. PM36543805
13. Cheung LY M, Menage L, Rizzoti K, Hamilton G, **Dumontet T**, Basham K, Daly AZ, Brinkmeier ML, Masser BE, Treier M, Cobb J, Delogu A, Lovell-Badge R, Hammer GD, Camper SA: Novel Candidate

Regulators and Developmental Trajectory of Pituitary Thyrotropes. *Endocrinology*.164(6)04/2023. PM37183548

Review

1. Levasseur A, **Dumontet T**, Martinez A: "Sexual dimorphism in adrenal gland development and tumorigenesis". *Current Opinion in Endocrine and Metabolic Research*.8: 60-65, 10/2019
2. Little DW, **Dumontet T**, LaPensee CR, Hammer GD: Beta-catenin in Adrenal Zonation and Disease. *Molecular and Cellular Endocrinology*.52202/2021. PM33338548
3. **Dumontet T**, Martinez A: Adrenal androgens, adrenarche, and zona reticularis: A human affair?. *Molecular and Cellular Endocrinology*.52805/2021. PM33676986
4. Chu Y, Setayesh J, **Dumontet T**, Krumeich L, Werner, J, Fattori Moretti I, De Sousa K, Kennedy C, La Pensee C, Lerario A, Hammer GD: Adrenocortical Stem Cells in Health and Disease. *Nature Reviews Endocrinology*.

Commentary

1. **Dumontet T**, Hammer GD: Bones and Adrenal Organogenesis: How Embryonic Osteocalcin Influences Lifelong Adrenal Function. 01/2022. PM35166237

Chapters

1. Martinez A, **Dumontet T**: Adrenal cortex; development. *Encyclopedia of Endocrine Diseases*,(2018), 8-15
2. **Dumontet T**, Sahut-Barnola I, Septier A, Montanier N, Plotton I, Roucher-Boulez F, Ducros V, Lefrançois-Martinez AM, Pointud JC, Zubair M, Morohashi KI, Breault DT, Val P, Martinez A. : Adrenocortical development: Lessons from mouse models.. 79, (2018), 95-97

Submitted Peer-Reviewed

Preprint

1. Borges KS, Little 3rd DW, Magalhaes TA, Ribeiro C, **Dumontet T**, Lapensee C, Basham KJ, Seth A, Azova S, Guagliardo NA, Barrett PQ, Berber M, O'Connell AE, Turcu AF, Lerario AM, Mohan DR, Rainey W, Carlone DL, Hirschhorn JN, Salic A, Breault DT, Hammer GD: Non-canonical Wnt signaling triggered by WNT2B drives adrenal aldosterone production. *bioRxiv*.PM39229119 ,(Submitted)
2. **Dumontet T**, Basham KJ, Foster MC, Silverman E, Heard KA, Johnson D, Lee C, Plaska SW, Breault DT, Penton D, Beuschlein F, Turcu AF, LaPensee CR, Lerario AM, Hammer GD. The transcription factor HHEX maintains glucocorticoid levels and protects adrenals from androgen-induced lipid depletion. *Res Sq [Preprint]*. 2025 Apr 15:rs.3.rs-6248794. doi: 10.21203/rs.3.rs-6248794/v1. PMID: 40321776; PMCID: PMC12047992.

Abstract/Posters

1. Barnola IS, **Dumontet T**, Lefrançois-Martinez AM, Martinez A: Dimorphisme sexuel dans l'hyperplasie micronodulaire des surrénales : plus de mâle c'est bien ?, Abstract, Conference Proceeding, Oral Presentation, SFE, Paris, France, 2013, *Annales d'Endocrinologie*.74, (4): 276-276
2. **Dumontet T**, Sahut-Barnola I, Ragazzon B, Rizk-Rabin M, Tissier F, Lefrançois-Martinez AM, Bertherat J, Val P, Martinez A: PKA and SUMOylation Signaling: New Hypothesis in the Pathophysiology of Adrenal Micronodular Dysplasia, Abstract, Conference Proceeding, Oral Presentation, 31st Conference of French Endocrine Society, Lyon, France, 2014, *Annales d'Endocrinologie*.75, (5-6): 275-275, 2014
3. **Dumontet T**, Sahut-Barnola I, Lefrançois-Martinez AM, Pointud JC, Morohashi KI, Breault D, Val P, Martinez A: Unexpected origin of Primary Pigmented Adrenal Dysplasia, Abstract, Conference Proceeding, Oral Presentation, 32nd Conference of French Endocrine Society, Angers, France, 2015, *Annales d'Endocrinologie*.75, (5-6): 275-275, 2015

4. Montanier N, Sahut-Barnola I, Pointud JC, Wittrant Y, Rochefort G, Hunt H, **Dumontet T**, Lefrancois-Martinez AM, Tauveron I, Val P, Martinez A: Séquence de survenue des complications métaboliques du syndrome de Cushing et intérêt d'une approche anti-récepteur-GR : contribution d'un modèle génétique murin, Abstract, Conference Proceeding, Oral Presentation, SFE, Angers, France, 2015, *Annales d'Endocrinologie*.76, (4): 338-338
5. Drelon C, Berthon A, Matheiu M, **Dumontet T**, Batisse-Lignier M, Tauveron I, Lefrancois-Martinez AM, Vainio S, Schedl A, Stratakis C, Martinez A, Val P: Signalisations et WNT et PKA dans la zonation et la tumorigenèse cortico-surrénalienne : cultiver l'antagonisme, Abstract, Conference Proceeding, Oral Presentation, SFE, Angers, France, 2015, *Annales d'Endocrinologie*.76, (4): 300-300
6. **Dumontet T**, Sahut-Barnola I, Ragazzon B, Rlzk-Rabin M, Tissier F, Lefrancois-Martinez AM, Bertherat J, Val P, Martinez A: Control of adrenal SUMOylation and Cortex Zonation, Abstract, Conference Proceeding, Oral Presentation, 33rd Conference of French Endocrine, Bordeaux, France, 2016, *Annales d'Endocrinologie*.77, (4): 264-264, 2016
7. Tabbal H, Drelon C, Mathieu M, Rodriguez S, Batisse-Lignier M, **Dumontet T**, Sahut-Barnola I, Pointud JC, Lefrancois-Martinez AM, Giordano T, Ragazzon B, Bertherat J, Martinez A, Val P: Molecular mechanisms regulated by the histone methyltransferase EZH2 in adrenocortical carcinoma, Poster, Conference Proceeding, Abstract, SFE, Bordeaux, France, 2016, *Annales d'Endocrinologie*.77, (4): 308-308
8. Sahut-Barnola I, **Dumontet T**, Lefrancois-Martinez AM, Val P, Martinez A: Contribution du cortex fœtal à l'hyperplasie micronodulaire des surrénales : la PKA chef d'orchestre de la « partition » corticale ?, Abstract, Conference Proceeding, Oral Presentation, SFE, Bordeaux, France, 2016, *Annales d'Endocrinologie*.77, (4): 265-265
9. Djari C, Barnola I, **Dumontet T**, Felicia L, Septier A, Val P, Martinez A, Lefrancois-Martinez AM: Un modèle génétique murin pour l'exploration moléculaire et cellulaire des tumorigenèses testiculaires du complexe de Carney, Abstract, Conference Proceeding, Oral Presentation, SFE, Bordeaux, France, 2016, *Annales d'Endocrinologie*.77, (4): 251-251
10. Mathieu M, Tabbal H, Drelon C, Rodriguez S, **Dumontet T**, Sahut-Barnola I, Lefrancois-Martinez AM, Martinez A, Val P: Rôle de EZH2 dans l'homéostasie du cortex surrénalien, Abstract, Conference Proceeding, Oral Presentation, SFE, Bordeaux, France, 2016, *Annales d'Endocrinologie*.77, (4): 264-264
11. Dufour D, **Dumontet T**, Pussard E, Sahut-Barnola I, Lefrancois-Martinez AM, Bossis G, Pointud JC, Yeh ET, Val P, Martinez A: La désSUMOylase SENP2 est nécessaire à la zonation fonctionnelle du cortex surrénalien, Abstract, Conference Proceeding, Oral Presentation, SFE, Marseille, France, 2020, *Annales d'Endocrinologie*.81, (4): 162-163
12. **Dumontet T**, Basham K, Lerario A, Bothou C, Brixius B, Turcu AF, Beuschlein F, Hammer G: Role of the Transcription Factor HHEX in Adrenal Homeostasis and Response to Progesterone Signaling, Abstract, Conference Proceeding, Oral Presentation, ECE, Milan, Italy, 2022, *Endocrine Abstracts*.81, (Y112)2022
13. **Dumontet T**: Role of the Transcription Factor HHEX in Inner Adrenal Cortex Homeostasis and Response to Progesterone Signaling, Oral Presentation, Poster, Endocrine Society USA, Atlanta, GA, 2022, 2022
14. Dufour D, **Dumontet T**, Sahut-Barnola I, Onzon M, Pussard E, Wilmoth JJ, Olabe J, Levasseur A, Bossis G, Yeh E, Val P, Martinez A, Anne-Marie L-M: Loss of SUMO-specific protease 2 leads to adrenal insufficiency limited to glucocorticoids, Abstract, Conference Proceeding, Oral Presentation, ECE, Milan, Italy, 2022, *Endocrine Abstracts*.81, (OC2.2)
15. **Dumontet T**, Basham K, Foster M, Heard K, Lapensee C, Bothou C, Beuschlein F, Rainey W, Turcu AF, Lerario A, Hammer G: HHEX is Required for Maintaining Circulating Glucocorticoid Levels Through Expression of Steroid Transporter ABCB1 and Regulation of Lipid Droplet Homeostasis in the Adrenal Cortex, Abstract, Conference Proceeding, Oral Presentation, ECE, Stockholm, Sweden, 2024, 99.OC3.4, 2024
16. **Dumontet T**, Basham K, Foster C, Silverman E, Heard K, Johnson D, Lee C, Plaska S, Breault D, Penton D, Beuschlein F, Turcu A, LaPensee C, Marcondes Lerario A, Hammer G. The transcription factor HHEX maintains glucocorticoid levels and protects adrenals from androgen-induced lipid depletion. Abstract, Oral Presentation, Internal Medicine Research Day Symposium, University of Michigan, Ann Arbor, 2025.