

BIOGRAPHICAL SKETCH

NAME Monica Dentice, Ph.D	POSITION TITLE Associate Professor of Physiology University of Naples "Federico II"		
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Naples,"Federico II", Italy	Laurea "Cum laude"	1998	Biology
University of Naples,"Federico II", Italy	Doctoral Fellow	2001-2004	Molecular Endocrinology
University of Naples,"Federico II", Italy	Postdoctoral Fellow	2005-today	Molecular Endocrinology

POSITIONS AND HONORS

Positions

1998-2001	Fellow in the laboratory of Dr. G. Vecchio, Full Professor, Department of General Pathology University of Naples, Federico II. Italy
2002	Visiting Fellow in the laboratory of P. R. Larsen, Thyroid Division, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, USA
2001-2004	Ph.D. Student in the Department of Molecular and Cellular Endocrinology and Oncology, University of Naples, "Federico II" Italy
2004-2005	Postdoctoral Fellow in the laboratory of A. C. Bianco, Thyroid Division, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, USA
2005-2015	Postdoctoral Fellow in the Department of Clinical Medicine and Surgery, University of Naples, "Federico II" Italy
2015-2017	Assistant Professor in the Department of Clinical Medicine and Surgery, University of Naples, "Federico II" Italy
2017-today	Associate Professor of Physiology in the Department of Clinical Medicine and Surgery, University of Naples, "Federico II" Italy

Honors

2002	Short-term mobility fellowship Università "Federico II", Napoli, Italy.
2008	"Eugenia Rosemberg Award 2008" , Endocrine Society, S. Francisco, USA.
2008	"Young Investigator Prize 2008" European Thyroid Association, Tesseloniki.
2009	Short-term mobility fellowship Università "Federico II", Napoli, Italy.
2013	Prize of the "Accademia Nazionale dei Lincei" for the research activity.

PRESENTATIONS AND TALKS

- 1) Short term mobility international program, 2002 presso Brigham and Women's Hospital. Boston- Harvard Medical School. Thyroid Division diretta dal Dott. P.R. Larsen
- 2) Seminario interdipartimentale dal titolo "Shh regola l'attivazione dell'ormone tiroideo mediante l'ubiquitinazione della Desiodasi di tipo II". 04-07-2005 DBPCM, Università degli Studi di Napoli, Federico II.
- 3) "Pendrina è un nuovo target del fattore trascrizionale TTF-1/Nkx-2.1 nella cellule tiroidee". Oral Communication. XXIII Giornate Italiane della Tiroide- Torino 2005
- 4) "D3 expression in the mouse skin and its regulation by Sonic Hedgehog". Oral Communication. Meeting of the European Thyroid Association. Napoli, 3-6 Settembre 2006
- 5) "Regolazione dell'espressione della Desiodasi di tipo III nella pelle". Oral Communication. XXIV Giornate Italiane della Tiroide- Modena 2006
- 6) "D3 expression in the mouse skin and its regulation by Sonic Hedgehog". Oral Communication. XXXII Congresso Nazionale della Società Italiana di Endocrinologia. Verona, 13-16 Giugno 2007
- 7) "RNA interference" Invited Lecture. Congresso Nazionale della Società Italiana di Endocrinologia. Verona, 13-16 Giugno 2007
- 8) "The thyroid Hormone-Thyroid Hormone interaction in the tumorigenesis of Basal cell carcinoma cells". Oral Communication. Endocrine Society Meeting, S. Francisco, USA. Giugno 2008.
- 9) "The interplay between Thyroid hormone signalling and Sonic Hedgehog pathway in the tumorigenesis of Basal cell carcinoma cells". Oral Communication. European Thyroid Association. Tessaoniki, Grecia, 2008.
- 10) "The Wnt/ B-Catenin pathway controls type 2 and 3 deiodinase expression". Oral Communication. 14th International Thyroid Congress, Parigi 11-16 September 2010
- 11) "Type 3 deiodinase is highly expressed in proliferating myoblasts and during the early phase of muscle regeneration". Oral Communication. 35° European Thyroid Association Meeting. Krakow, 10-14 September 2011
- 12) "Deiodinases in the control of Cell Cycle". Invited Speaker, 10th International Workshop on Resistance to Thyroid Hormone Action. Quebec, Canada, 17-19th September 2012.
- 13) "Role of deiodinases in the physiology of muscle stem cells". Invited Speaker. 11th International Workshop on Resistance to Thyroid Hormone Action. Santiago de Compostela, Spagna, Settembre 2014.
- 14) "Deiodinases in Muscle Regeneration". Invited Speaker. XIXth Annual Symposium Dutch Thyroid Research Foundation. Amsterdam 12-13 Giugno 2015.

PUBLICATIONS

- 1) **Dentice M**, Mancini P, Aniello F, Branno M, Piscopo M, Pulcrano G, Fucci L.
The replacement H3.3 histone gene in Paracentrotus lividus sea urchin: structure and regulatory elements. Biochim Biophys Acta. 2001 May 28;1519(1-2):39-45.
- 2) **Dentice M**, Morisco C, Vitale M, Rossi G, Fenzi G, Salvatore D. The different cardiac expression of the type 2 iodothyronine deiodinase gene between human and rat is related to the differential response of the dio2 genes to Nkx-2.5 and GATA-4 transcription factors. Mol Endocrinol. 2003 Aug;17(8):1508-21.
- 3) Kim BW, Zavacki AM, Curcio-Morelli C, **Dentice M**, Harney JW, Larsen PR, Bianco AC. Endoplasmic reticulum-associated degradation of the human type 2 iodothyronine deiodinase (D2) is mediated via an association between mammalian UBC7 and the carboxyl region of D2. Mol Endocrinol. 2003 Dec;17(12):2603-12.
- 4) **Dentice M**, Luongo C, Elefante A, Romino R, Ambrosio R, Vitale M, Rossi G, Fenzi G, Salvatore D. Transcription factor Nkx-2.5 induces sodium/iodide symporter gene expression and participates in retinoic acid- and lactation-induced transcription in mammary cells. Mol Cell Biol, 24:7863-77, 2004

- 5) **Dentice M**, Bandyopadhyay A, Gereben B, Callebaut I, Christoffolete MA, Kim BW, Nissim S, Mornon JP, Zavacki AM, Zeold A, Capelo LP, Curcio-Morelli C, Ribeiro R, Harney JW, Tabin CJ, Bianco AC. The Hedgehog-inducible ubiquitin ligase subunit WSB-1 modulates thyroid hormone activation and PTHrP secretion in the developing growth plate. Nat Cell Biol. 2005 Jul;7(7):698-705.
- 6) **Dentice M**, C. Luongo, A. Elefante, R. Ambrosio, S. Salzano, M. Zannini, R. Nitsch, R. Di Lauro, G. Rossi, G. Fenzi, D. Salvatore. Pendrin is a Novel In Vivo Downstream Target Gene of the TTF-1/Nkx-2.1 Homeodomain Transcription Factor in Differentiated Thyroid Cells. Mol Cell Biol, 25:10171-182, 2005
- 7) **M. Dentice**, V. Cordeddu, A. Rosica, A. Ferrara, L. Santarpia, D. Salvatore, L. Chiovato, L. Moschini, C. Fazzini, A. Olivieri, P. Costa, V. Stoppioni, M. Baserga, M. Sorcini, G. Fenzi, R. Di Lauro, M. Tartaglia, P.E. Macchia. Missense mutation in the transcription factor NKX2.5: a novel molecular event in the pathogenesis of thyroid dysgenesis. J Clin Endocrinol Metab, 2006. (91) 1428-33
- 8) Zeold A, Pormuller L, **Dentice M**, Harney JW, Curcio-Morelli C, Tente SM, Bianco AC, Gereben B. Metabolic instability of type 2 deiodinase is transferable to stable proteins independently of subcellular localization. J Biol Chem. 2006 Oct 20;281(42):31538-43.
- 9) Sagar GD, Gereben B, Callebaut I, Mornon JP, Zeold A, da Silva WS, Luongo C, Dentice M, Tente SM, Freitas BC, Harney JW, Zavacki AM, Bianco AC. Ubiquitination-induced conformational change within the deiodinase dimer is a switch regulating enzyme activity. Mol Cell Biol. 2007 Jul;27(13):4774-83.
- 10) **Dentice M**, Luongo C, Huanh S, Ambrosio R, Elefante A, Mirabeau-Prunier D, Zavacki AM, Fenzi G, Grachtchouk M, Dlugosz A, Missero C, Bianco AC, Larsen PR, Salvatore D. "Sonic hedgehog-induced type 3 deiodinase blocks thyroid hormone action thereby enhancing proliferation of normal and malignant keratinocytes". Proc Natl Acad Sci U S A. 2007 Sep 4;104(36):14466-71.
- 11) Gereben B, Zeold A, **Dentice M**, Salvatore D, Bianco AC. Activation and inactivation of thyroid hormone by deiodinases: local action with general consequences. Review. Cell Mol Life Science 2007.
- 12) **Antonini D**, **Dentice M**, Mahtani P, De Rosa L, Gatta GD, Mandinova A, Salvatore D, Stupka E, Missero C. Tprg, a Gene Predominantly Expressed in Skin, Is a Direct Target of the Transcription Factor p63. J Invest Dermatol. 2008 Feb 7.
- 13) **Dentice M.**, Monfrecola G. "Dual dichotomies-when thyroid dysfunction and thyroid hormones get into the skin. Thyroid. 2008 Aug;18(8):823-4.
- 14) **Dentice M**, Ambrosio R, Salvatore D. "Role of type 3 deiodinase in cancer." Expert Opin Ther Targets. 2009 Nov;13(11):1363-73. Review.
- 15) Marsili A, et al., "Type 2 iodothyronine deiodinase levels are higher in slow-twitch than fast-twitch mouse skeletal muscle and are increased in hypothyroidism". Endocrinology. 2010 Dec;151(12):5952-60.
- 16) **M. Dentice**, et al. "The FoxO3/type 2 deiodinase pathway is required for normal mouse myogenesis and muscle regeneration". Journal of Clinical Investigation. 2010 Aug.
- 17) **Monica Dentice**. Hedgehog-mediated regulation of thyroid hormone action through iodothyronine deiodinases. Expert Opin. Ther. Targets (2011) 15(4):1-12

- 18) **Monica Dentice** and Domenico Salvatore. Local impact of thyroid hormone inactivation. *Journal of Endocrinology*. (2011) 209, 273–282
- 19) Marsili A, et al. “Type 2 iodothyronine deiodinase provides intracellular 3,5,3' triiodothyronine to normal and regenerating mouse skeletal muscle”. *Am J Physiol Endocrinol Metab*. 2011 Jul 19.
- 20) **Dentice M** et al. “The deiodinases and the control of intracellular thyroid hormone signaling during cellular differentiation”. *Biochim Biophys Acta*. 2012 May 24.
- 21) **Dentice M**, et al.,. “B-Catenin regulates deiodinase levels and thyroid hormone signaling in colon cancer cells”. *Gastroenterology*. 2012 Oct;143(4):1037-47.
- 22) Sibilio A et al.,. “Deiodination in cancer growth: the role of type III deiodinase. *Minerva Endocrinol*. 2012 Dec;37(4):315-27. Review.
- 23) Ambrosio et al.,“Epigenetic control of type 2 and 3 deiodinases in myogenesis: role of Lysine-specific Demethylase enzyme and FoxO3”. *Nucleic Acids Res*. 2013 Apr 1;41(6):3551-62.
- 24) Antonini D et al., “An Intimate Relationship between Thyroid Hormone and Skin: Regulation of Gene Expression.” *Front Endocrinol (Lausanne)*. 2013 Aug 22;4:104.
- 25) **Dentice M**, Antonini D, Salvatore D. *Expert Opin Ther Targets*. 2013 Nov;17(11):1369-79.
- 26) Salvatore D et al., “Thyroid hormones and skeletal muscle--new insights and potential implications”. *Nat Rev Endocrinol*. 2014 Apr;10(4):206-14.
- 27) Luongo C, et al.,“The sonic hedgehog-induced type 3 deiodinase facilitates tumorigenesis of basal cell carcinoma by reducing Gli2 inactivation”. *Endocrinology*. 2014 Jun;155(6):2077-88.
- 28) Castroneves LA et al.,“Mice with hepatocyte-specific deficiency of type 3 deiodinase have intact liver regeneration and accelerated recovery from nonthyroidal illness after toxin-induced hepatonecrosis”. *Endocrinology*. 2014 Oct;155(10):4061-8.
- 29) Luongo C, et al., “The selective loss of the type 2 iodothyronine deiodinase in mouse thyrotrophs increases basal TSH but blunts the thyrotropin response to hypothyroidism”. *Endocrinology*. 2015 Feb;156(2):745-54.
- 30) **Dentice M**, et al.,“Intracellular inactivation of thyroid hormone is a survival mechanism for muscle stem cell proliferation and lineage progression”. *Cell Metab*. 2014 Dec 2;20(6):1038-48.
- 31) Generoso SF et al.,“Pharmacological folding chaperones act as allosteric ligands of Frizzled4”. *Nat Chem Biol*. 2015 Apr;11(4):280-6.
- 32) **Monica Dentice**, Veronica Catalano, Raffaele Ambrosio, Cristina Luongo, Rosachiara Carollo, Antonina Benfante, Matilde Todaro, Giorgio Stassi, and Domenico Salvatore “Activated Thyroid Hormone Promotes Differentiation and Chemotherapeutic Sensitization of Colorectal Cancer Stem Cells by Regulating Wnt and BMP4 Signaling”. *Cancer Research*, 2016.
- 33) D. Di Girolamo, R. Ambrosio, M. A. De Stefano, G. Mancino, T. Porcelli, C. Luongo, E. Di Cicco, A.A. Dlugosz, C. Missero, D. Salvatore and **M. Dentice** Reciprocal thyroid hormone-microRNA21 interplay regulates Hedgehog pathway-driven skin tumorigenesis. *JCI* 2016.
- 34) Miro C, Ambrosio R, De Stefano MA, Di Girolamo D, Di Cicco E, Cicatiello AG, Mancino G, Porcelli T, Raia M, Del Vecchio L, Salvatore D, Dentice M. *Thyroid*. 2017 Apr;27(4):567-576.

- 35) Castagna MG, Dentice M, Cantara S, Ambrosio R, Maino F, Porcelli T, Marzocchi C, Garbi C, Pacini F, Salvatore D. J Clin Endocrinol Metab. 2017 May 1;102(5):1623-1630.
- 36) Cicatiello AG, Ambrosio R, Dentice M. Mol Cell Endocrinol. 2017 Dec 25;459:84-89.
- 37) Riccio G, Bottone S, La Regina G, Badolati N, Passacantilli S, Rossi GB, Accardo A, Dentice M, Silvestri R, Novellino E, Stornaiuolo M. Biochemistry. 2018 Feb 6;57(5):839-851.
- 38) Cicatiello AG, Di Girolamo D, Dentice M. Front Endocrinol. 2018 Sep 11;9:474.
- 39) Badolati N, Sommella E, Riccio G, Salviati E, Heintz D, Bottone S, Di Cicco E, Dentice M, Tenore G, Campiglia P, Stornaiuolo M, Novellino E. Nutrients. 2018 Oct 2;10(10).
- 40) Riccio G, Sommella E, Badolati N, Salviati E, Bottone S, Campiglia P, Dentice M, Tenore GC, Stornaiuolo M, Novellino E. Nutrients. 2018 Nov 20;10(11).
- 41) Sommella E, Badolati N, Riccio G, Salviati E, Bottone S, Dentice M, Campiglia P, Tenore GC, Stornaiuolo M, Novellino E. Nutrients. 2019 Jan 14;11(1).
- 42) Malagola E, Chen R, Bombardo M, Saponara E, Dentice M, Salvatore D, Reding T, Myers S, Hills AP, Graf R, Sonda S. J Pathol. 2019 Feb.
- 43) Carmody C, Ogawa-Wong AN, Martin C, Luongo C, Zuidwijk M, Sager B, Petersen T, Roginski Guetter A, Janssen R, Wu EY, Bogaards S, Neumann NM, Hau K, Marsili A, Boelen A, Silva JE, Dentice M, Salvatore D, Wagers AJ, Larsen PR, Simonides WS, Zavacki AM. Endocrinology. 2019 Apr 5.
- 44) Cristina Luongo, Monica Dentice and Domenico Salvatore. Nat Rev Endocrinol. 2019 Aug;15(8):479-488.
- 45) Sagliocchi S, Cicatiello AG, Di Cicco E, Ambrosio R, Miro C, Di Girolamo D, Nappi A, Mancino G, De Stefano MA, Luongo C, Raia M, Ogawa-Wong AN, Zavacki AM, Paladino S, Salvatore D, Dentice M. Redox Biol. 2019 Jun;24:101228.
- 46) Miro C, Di Cicco E, Ambrosio R, Mancino G, Di Girolamo D, Cicatiello AG, Sagliocchi S, Nappi A, De Stefano MA, Luongo C, Antonini D, Visconte F, Varricchio S, Ilardi G, Del Vecchio L, Staibano S, Boelen A, Blanpain C, Missero C, Salvatore D, Dentice M. "Thyroid hormone induces progression and invasiveness of squamous cell carcinomas by promoting a ZEB-1/E-cadherin switch". Nat Commun. 2019 Nov 27;10(1):5410.
- 47) Nappi A, Di Cicco E, Miro C, Cicatiello A. G, Sagliocchi S, Mancino G, Ambrosio R, Luongo C, Di Girolamo D, De Stefano M. A, Porcelli T, Stornaiuolo M, and Dentice M. Cancers (Basel). 2020 Mar 18;12(3):715.
- 48) Mancino G, Sibilio A, Luongo C, Di Cicco E, Miro C, Cicatiello AG, Nappi A, Sagliocchi S, Ambrosio R, De Stefano MA, Di Girolamo D, Porcelli T, Murolo M, Saracino F, Perruolo G, Formisano P, Stornaiuolo M, Dentice M. Thyroid. 2020 Apr 29.

Memberships

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| 2006-today | Ordinary Member - Società Italiana di Endocrinologia (SIE) |
| 2008-today | Ordinary Member - European Thyroid Association (ETA) |
| 2008-today | Ordinary member "Endocrine Society" |

2009-today Ordinary member Associazione Italiana della Tiroide (AIT)

Internazional Patents:

- 1) Methods and Products for Treating Proliferative Disorders. May 8-2008. Autori: P.R. Larsen, A. Bianco, **M. Dentice**, C. Missero, D. Salvatore. External Ref. No. BWH 1326. Internal Ref, No: B0801.70352WO00