Gilbert Vassart.

G. Vassart graduated as an MD from the Free University of Brussels (Belgium) in 1969 and got his PhD from the same university in 1974. He headed the department of medical genetics, Erasme Academic Hospital, Université Libre de Bruxelles and the Institute of Interdisciplinary Research (IRIBHM). He pioneered the use of molecular genetics in endocrinology with the cloning of thyroid-specific genes and identification of their mutations in congenital hypo- and hyperthyroidism. Over the past twenty years, his group identified and studied a wide series of G protein-coupled receptors, including CCR5 the entry route of HIV-1, and described the first natural mutations leading to their illegitimate or constitutive activation in endocrine diseases. Recently, he turned to the study of the role of a specific class of GPCRs in stem cells of the digestive tract.

Awards

- Harrington Prize (award of the European Thyroid association) 1978.
- Francqui Prize 1993 (the highest Belgian award in Science for the under 50).
- Van Geysel European award for biomedical research 2000
- Docteur honoris causa of the Université René Descartes 2000.
- Docteur honoris causa of the University of Chicago 2002
- Aurbach lecture award: Molecular genetics of glycoprotein hormone receptors. The Endocrine Society. Philadelphia June 2003.
- Fellow of the Royal College of Physicians of UK 2005
- Francqui chair in Genetics at the Catholic University Leuven (2008)
- IPSEN “Endocrine Regulation Prize” 2009.

Selected publications.

Vassart, G., S. Refetoff, H. Brocas, C. Dinsart, and J.E. Dumont (1975). Translation of thyroglobulin 33S messenger RNA as a means of determining thyroglobulin quaternary structure. Proc.Natl.Acad.Sci.U.S.A. 72:3839-3843.

Mercken, L., M.J. Simons, S. Swillens, M. Massaer, and G. Vassart (1985). Primary structure of bovine thyroglobulin deduced from the sequence of its 8,431-base complementary DNA. *Nature* 316:647-651.

Libert, F., J. Ruel, M. Ludgate, S. Swillens, N. Alexander, G. Vassart, and C. Dinsart (1987). Thyroperoxidase, an auto-antigen with a mosaic structure made of nuclear and mitochondrial gene modules. EMBO J. 6:4193-4196

Parmentier, M., F. Libert, C. Maenhaut, A. Lefort, C. Gerard, J. Perret, J. Van Sande, J.E. Dumont, and G. Vassart (1989). Molecular cloning of the thyrotropin receptor. Science 246:1620-1622.

Libert, F., M. Parmentier, A. Lefort, C. Dinsart, J. Van Sande, C. Maenhaut, M.J. Simons, J.E. Dumont, and G. Vassart (1989). Selective amplification and cloning of four new members of the G protein-coupled receptor family. *Science* 244:569-572.

Ieiri, T., P. Cochaux, H. Targovnik, M. Suzuki, S.I. Shimoda, J. Perret, and G. Vassart (1991). A 3' splice site mutation in the thyroglobulin gene responsible for congenital goitre with hypothyroidism. J.Clin.Invest. 88:1901-1905.

Parma, J., L. Duprez, J. Van Sande, P. Cochaux, C. Gervy-Decoster, J. Mockel, J.E. Dumont, and G. Vassart (1993). Somatic mutations in the thyrotropin receptor gene cause hyperfunctioning thyroid adenomas. Nature 365:649-651

Duprez, L., J. Parma, J. Van Sande, A. Alleier, J. Leclère, C. Schvartz, M.-J. Delisle, M. Decoulx, J. Orgiazzi, J.E. Dumont, and G. Vassart (1994). Germline mutations in the thyrotropin receptor gene cause non-autoimmune autosomal dominant hyperthyroidism. Nat.Gen. 7:396-401.

Samson, M., F. Libert, B.J. Doranz, J. Rucker, C. Liesnard, C.M. Farber, S. Saragosti, C. Lapouméroulie, J. Cognaux, C. Forceille, G. Muyldermans, C. Verhofstede, G. Burtonboy, M. Georges, T. Imai, S. Rana, Y. Yi, R.J. Smyth, R.G. Collman, R.W. Doms, G. Vassart, and M. Parmentier (1996). Resistance to HIV-1 infecton in caucasian individuals bearing mutant alleles of the CCR-5 chemokine receptor gene. *Nature* 382:722-725.365:649-651.

Rodien, P., C. Brémont, ML. Raffin, J. Parma, J. Van Sande, S. Costagliola, JP. luton, G. Vassart, and L. Duprez (1998). Familial gestational hyperthyroidism caused by a mutant thyrotropin receptor hypersensitive to human chorionic gonadotropin. N.Engl.J.Med. 339:1823-1826.

Smits G, Olatunbosun O, Delbaere A, Pierson R, Vassart G, Costagliola S (2003). Ovarian hyperstimulation syndrome due to a mutation in the follicle-stimulating hormone receptor. *N Engl J Med* 349:760-6.

Urizar E, Montanelli L, Loy T, Bonomi M, Swillens S, Gales C, Bouvier M, Smits G, Vassart G, Costagliola S (2005). Glycoprotein hormone receptors: link between receptor homodimerization and negative cooperativity. *EMBO J* 24:1954-64.

Ledent C, Demeestere I, Blum D, Petermans J, Hamalainen T, Smits G, Vassart G (2005). Premature ovarian aging in mice deficient for Gpr3. Proc Natl Acad Sci USA 102:8922-6.

Urizar E, Montanelli L, Loy T, Bonomi M, Swillens S, Gales C, Bouvier M, Smits G, Vassart G, Costagliola S (2005). Glycoprotein hormone receptors: link between receptor homodimerization and negative cooperativity. EMBO J 24:1954-64.

Decaux G, Soupart A, Vassart G Non-peptide arginine-vasopressin antagonists: the vaptans. Lancet. 2008 May 10;371(9624):1624-32.

Garcia MI, Ghiani M, Lefort A, Libert F, Strollo S, Vassart G. LGR5 deficiency deregulates Wnt signaling and leads to precocious Paneth cell differentiation in the fetal intestine. Dev Biol. 2009 Jul 1;331(1):58-67

Mustata RC, Van Loy T, Lefort A, Libert F, Strollo S, Vassart G, Garcia MI. Lgr4 is required for Paneth cell differentiation and maintenance of intestinal stem cells ex vivo. EMBO Rep. 2011 Jun;12(6):558-64.

Mustata RC, Vasile G, Fernandez-Vallone V, Strollo S, Lefort A, Libert F, Monteyne D, Pérez-Morga D, Vassart G, Garcia MI. Identification of Lgr5-independent spheroid-generating progenitors of the mouse fetal intestinal epithelium. Cell Rep. 2013 Oct 31;5(2):421-32.

.