**Dichiarazione sostitutiva atto notorietà**
(art. 47 DPR 445 DEL 28.12.2000)
**ai sensi dell'art. 15, comma 1, lett. c), D.Lgs 33/2013 e**
**ai sensi dell'art. 20 comma 5, del D. Lgs. 8 aprile 2013 n. 39**

Il/La sottoscritto/a Giuseppina Tesco CF. TSCGPP62A43G999R

nato a Prato Prov ( PO ) il 3/1/62

consapevole delle sanzioni penali, nel caso di dichiarazione non veritiere, di formazione o uso di atti falsi, richiamate dall'art. 76 del DPR n. 445 del 28.12.2000

**DICHIARA**

**ai sensi dell'art. 15, c. 1, lett. c) del D.Lgs 33/2013 e ai sensi dell'art. 20, c. 5 del D.Lgs 39/2013**

in relazione al conferimento dell'incarico di : _____

_____

a) ☒ di non svolgere incarichi e di non essere titolare di cariche in Enti di diritto privato regolati o finanziati dalla Pubblica Amministrazione conferente;

*ovvero*

☐ di svolgere i seguenti incarichi o di essere titolare delle seguenti cariche in Enti di diritto privato regolati o finanziati dalla Pubblica Amministrazione conferente:

1) _____
2) _____
3) _____

b) ☒ di non svolgere attività professionali in Enti di diritto privato regolati o finanziati dalla Pubblica Amministrazione conferente;

*ovvero*

☐ di svolgere le seguenti attività professionali in Enti di diritto privato regolati o finanziati dalla Pubblica Amministrazione conferente:

1) _____
2) _____
3) _____

c) di non trovarsi in alcuna delle situazioni di inconferibilità di cui al D.Lgs n. 39/2013.

**INFORMATIVA RIGUARDO AL TRATTAMENTO DEI DATI PERSONALI (ART. 13 REG.UE 2016/679)**

***Il/La sottoscritto/a prende atto che il trattamento dei propri dati personali e sensibili avverrà secondo le modalità stabilite dal Regolamento UE 2016/679 (GDPR) relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali, al solo fine di assolvere gli adempimenti di natura obbligatoria posti in capo al LENS.***

***Il/La sottoscritto/a prende altresì atto che il curriculum vitae et studiorum e le dichiarazioni rese per le quali, ai sensi della normativa vigente, è prevista l'ottemperanza ad obblighi di trasparenza, verranno pubblicati sul sito web dell'Amministrazione in apposita sezione di "Amministrazione Trasparente", all'indirizzo https://www.lens.unifi.it, dove è presente una pagina dedicata alla tematica della protezione dei dati personali contenente anche l'informativa per il trattamento dei dati personali dei collaboratori esterni.***

Il/La sottoscritto/a si impegna a comunicare eventuali cause di incompatibilità che intercorrano nel corso dello svolgimento dell'incarico.

Firenze, 20/12/2018

IL /LA DICHIARANTE (firma leggibile per esteso)

**TUFTS UNIVERSITY SCHOOL OF MEDICINE**
**CURRICULUM VITAE AND BIBLIOGRAPHY FORMAT**

**DATE:** September 12, 2018

**FULL NAME AND DEGREE/S:** Giuseppina Tesco M.D., PhD

**CURRENT ADMINISTRATIVE TITLE:** Associate Professor of Neuroscience

**OFFICE ADDRESS**: Department of Neuroscience, 136 Harrison Avenue, St 328A, Boston, MA 02111

**OFFICE PHONE NUMBER:** 617 636 4050

**E-MAIL ADDRESS:** Giuseppina.Tesco@Tufts.edu

**FAX ADDRESS:** 617 636 2413

## EDUCATION

Medical School and/or Graduate School

| | |
|---|---|
| 1989 M.D. (with honors) | School of Medicine, University of Florence, Florence, Italy |
| 1999 Ph.D. (with honors) | Neuroscience, University of Florence, Florence, Italy |

## POSTDOCTORAL TRAINING

Internship and Residencies:

| | |
|---|---|
| 1993 (with honors) | Diploma in Neurology, University of Florence, Florence, Italy |
| 1995-1997 | Fogarty Postdoctoral Visiting Fellow Award at NINDS, NIH, Laboratory of Adaptive Systems (Dr. Daniel Alkon, Chief), Bethesda, MD, USA |
| 1997-1998 | Visiting Associate Award at NINDS, NIH and Genetics and Aging Research Unit, Massachusetts General Hospital, Dept of Neurology, Harvard Medical School, Charlestown, MA, USA |

## LICENSURE AND CERTIFICATION

| | |
|---|---|
| 1990-present | Medical Association of Physicians and Surgeons, Florence, Italy |

## ACADEMIC APPOINTMENTS (old and new)

1998-2006 Instructor in Neurology, Harvard University

**2006-2009 Assistant Professor of Neurology, Harvard University**

**2009-2013 Assistant Professor of Neuroscience, Tufts University**

**2013-present Associate Professor (with tenure) of Neuroscience, Tufts University,**

**HOSPITAL APPOINTMENTS** (list chronologically)

1997-1998 Research Assistant, Genetics and Aging Unit, Massachusetts General Hospital

1998-2009 Assistant Geneticist in Neurology, Massachusetts General Hospital

**AWARDS AND HONORS**

1989-1993 Italian Ministry of the University and Education. Fellowship for The Highest Score at the admission exam for the residency in Neurology

1993-1994 Istituto Roussel Italia research grant for the study of in vitro aging of fibroblasts from centenarians

1998-2000 The John Douglas French Alzheimer's Foundation Fellowship: Characterization of a protein interacting with the N-terminus of presenilin 1 and its role in Alzheimer's disease pathogenesis.

**HOSPITAL, MEDICAL SCHOOL, OR UNIVERSITY COMMITTEE ASSIGNMENTS**: (departmental)

2010-2016 Scientific Affairs Committee, Tufts School of Medicine

2011 Faculty Search Committee, Department of Neuroscience, Tufts School of Medicine

2012 Faculty Search Committee, Department of Neuroscience, Tufts School of Medicine

2012-present Thematic Working Group: Healthy Aging, Office of the President, Tufts University

2018-present SEC Neuro Center Steering Committee

**OTHER MAJOR COMMITEE ASSIGNMENTS**: (national)

1999-2007 Review Board of the John Douglas French Alzheimer's Foundation

2000-present Review Board of the Medical and Scientific Advisory Council, Alzheimer's Association

2009-present Associate Faculty Member Faculty of 1000 Biology

2009-2011 Ad hoc CDIN and CMND NIH study section reviewer

2011-2015 Chartered member of CDIN NIH study section

2012, 2015 Ad hoc reviewer Neurodegenerative Diseases Clinical Science Research & Development (10P9C), Department Of Veterans Affairs.

2013 Ad hoc reviewer Militarily Relevant Peer Reviewed Alzheimer's Disease Research Program (MRPRA), Department of Defense.

2015-2016 Ad hoc reviewer CDIN, CMND and BINP NIH study section.

**TRAINING OF GRADUATE STUDENTS/POST DOCTORAL** (list present and past)

**Pre-doctoral Advisees and Trainees at Harvard Medical School**

**Students and other trainees:**

| | | **Position/Training** |
|---|---|---|
| 1999 | Susanna B. Mireau, MIT | Undergraduate student/Summer internship |
| 2001 | John J. Belletti, Harvard University | Undergraduate student/Summer internship |
| 2001 | Mohammed Zeeshan Ozair, The Aga Khan University, Karachi, Pakistan. | Medical student/Summer internship |
| 2003 | Victoria M. Trendafilova, BA Harvard University | Technician |
| 2004-07 | Shinjita Das, BA, MIT | Undergraduate student/Technician |
| 2005-09 | Eugene L. Kang, BA, MPH | Technician |
| 2006-09 | Andrew N. Cameron, BA | Technician |
| 2006 | Sarah K. Bourne, Harvard University | Undergraduate student/Summer internship |
| 2007 | Shaunak Das, University of Texas at Austin | Undergraduate student/Summer internship |
| 2007 | Rajarshi Banerjee, Harvard University | Undergraduate student/Summer internship |

**Post-doctoral Fellows at Harvard Medical School**:

2002-2005 Young Ho Koh, Ph.D., currently Senior Research Scientist, Korea NIH, Seoul, South Korea

2003-2005 Andrea Ginestroni, MD, currently Neurologist, University of Florence, Italy

2008-2009 Kendall R. Walker, Ph.D., Post-doctoral fellow

**Pre-doctoral Advisees and Trainees at Tufts School of Medicine**

**Students and other trainees:**

| | | **Position/Training** |
|---|---|---|
| 2009-10 | Amanda Wells, BA | PhD student/Lab rotation |
| 2009-2013 | Eugene L. Kang, BA, MPH | Senior technician, currently MBA program BU |
| 2009 | Andrew N. Cameron, BA | Senior technician, currently Senior technician at Pfizer |
| 2010-2011 | Victoria Gillet, BA | Technician, currently Medical Assistant BWH |
| 2011 | Raka-Larissa Basu, BA | PhD student/Lab rotation |
| 2011 | Ben Roher, BA | MD student/Summer internship |
| 2012-2016 | Eniola Yeates, BA | MD PhD student/Lab rotation/ Thesis |
| 2012-2014 | Jessica Royal, BA | Technician, currently DPT program, BU |
| 2013 | Laura Darniederer, BA | PhD student/Lab rotation |
| 2013 | Noel Hwang | Tufts Undergraduate student/Summer internship |
| 2014 | Michaela Toleman, BA | PhD student/Lab rotation |
| 2014-2016 | Temitope Shoneye BA | PREP student/Committee |
| 2014-2017 | Martin Ma | Tufts Undergraduate student/Summer internship/Senior thesis/ Technician, currently MD. PhD program BU |
| 2015-present | Rachel Willen BA | Technician |
| 2016-2017 | Seth Vogel BA | MD PhD student/Thesis committee |
| 2016-present | Maia Kipman BA | MD PhD student/Thesis committee |

| | | |
|---|---|---|
| 2017-2018 | Shudee Wu | Tufts Undergraduate student/Technician |
| 2017-present | Kevin Ho | Tufts Undergraduate student |
| 2017-present | Edward Robinson | Tufts Undergraduate student |
| 2017-present | Tingyi Cao | Tufts Undergraduate student |
| 2018 | Breana Kennedy BA | Graduate student, School of Pharmacy, Northeastern University |
| 2018-present | Griffin Sigal | Tufts Undergraduate student |
| 2018-present | Hiroto Watanabe | Tufts Undergraduate student |
| 2018-present | Caroline Benevicius | Tufts Undergraduate student |
| 2018-present | Beatrice Menicacci BA | Graduate student, University of Florence, Florence, Italy |

**Post-doctoral Fellows at Tufts School of Medicine**

| | |
|---|---|
| 2009-2014 | Kendall R. Walker, Ph.D., currently Scientist at Psycogenics |
| 2009-2010 | Fabrizio Piazza, Ph.D., currently Assistant Professor, Lab. Neurobiology Dept. of Neuroscience & Biomed. Technol University of Milano-Bicocca, Italy |
| 2010-2011 | Barbara Biscaro, Ph.D., currently working at Takeda Pharmaceutical. |
| 2011-2012 | David Klaver, Ph.D., currently he is a teacher in Australia. |
| 2015-2017 | David Albrecht, Ph.D., currently post-doc at the Department of Neuroscience, Tufts University |
| 2012-present | Won-Hee Kim, Ph.D. |
| 2013-present | Selene Lomoio, Ph.D. |
| 2015-present | Sylvia Lombardo, Ph.D. |
| 2018 | Rodolfo Tonin, Ph.D., visiting Post-doc from University of Florence |

**TEACHING RESPONSIBILITIES** (present and past) chronological

**Local:**

1. Harvard Medical School Contributions

List of departmental and institute seminars, which are considered teaching lectures for post-doctoral fellows as well as graduate and undergraduate students at HMS (total contact hr 20):

| | |
|---|---|
| 1998 February | β-catenin interacts with presenilin 1 endogenously. MGH Genetics and Aging Research Unit. |
| 1998 August | Effects of apoptosis on β-catenin/presenilin 1 complex. MGH Genetics and Aging Research Unit. |
| 1998 November | Caspase activation abrogates β-catenin/presenilin 1 interaction. MGH Neurogenetics Unit. |
| 1999 March | Effect of PS1 FAD-linked mutations on β-catenin/PS1 complex. MGH Genetics and Aging Research Unit. |
| 1999 October | Isolation of PS1/β-catenin/GSK3β complex. MGH Genetics and Aging Research Unit. |
| 2000 January | Effects of D257A/D385A PS1 mutations on the PS1/β-catenin/GSK3β complex. MGH Neurogenetics Unit. |
| 2000 May | Apoptosis induces APP caspase-mediated cleavage and increased Aβ generation. MGH Genetics and Aging Research Unit. |
| 2000 November | Temporal patterns of caspase-mediated cleavage of APP and PS1. MGH Genetics and Aging Research Unit. |
| 2001 April | Caspase-mediated cleavage of APP generates APP-CTF, which may serve as γ-secretase substrates. MGH Genetics and Aging Research Unit. |
| 2001 September | Apoptosis: an alternative route for Aβ generation. MGH MassInstitute for Neurodegenerative Disease. |
| 2001 November | APP intracellular domain (AICD) is generated *in vitro* and isolated from both membrane and cytoplasmic fractions. MGH Genetics and Aging Research Unit. |
| 2002 May | Effects of wild-type and mutant presenilin 1 on AICD generation. MGH Genetics and Aging Research Unit. |
| 2002 November | Caspase-mediated cleavage of APP is not necessary for increased Aβ generation. MGH Genetics and Aging Research Unit. |
| 2003 June | BACE and γ-secretase complex components are stabilized during apoptosis. MGH Genetics and Aging Research Unit. |

| | |
|---|---|
| 2003 October | Stabilization of amyloidogenic secretases underlies increased Aβ generation following caspase activation. MGH MassInstitute for Neurodegenerative Disease. |
| 2004 January | Effects of amino acids substitutions of APP transmembrane domain on Aβ and AICD generation. MGH Genetics and Aging Research Unit. |
| 2004 May | Stabilization of amyloidogenic secretases underlies increased Aβ generation following caspase activation. MGH Neurogenetics Unit. |
| 2004 October | Lack of γ-secretase cleavage of APP at Val50 prevents Aβ generation. MGH Genetics and Aging Research Unit. |
| 2005 November | Regulation of β-amyloidogenic secretases: clues for the pathogenesis and treatment of AD. MGH, Department of Neurology, Wednesday Residents' Seminar Series. |
| 2007 September | GGA3 depletion stabilizes BACE and enhances β-secretase activity. MassGeneral Institute for Neurodegenerative Disease, MGH. |

**2. Tufts University School of Medicine contribution:**

| | |
|---|---|
| 2009-2012 | ISP Journal Club, representative for Neuroscience on the organizational committee. |
| 2009-2012 | ISP Journal Club, Faculty Facilitator for the topic "Protein Degradation" (2 contact hr) |
| 2009-present | Director Alzheimer's Disease meetings (joint meetings with labs working on neurodegenerative diseases) |
| 2010-present | Medical Neuroscience M20: Dementia Lecture (1 contact hr) |
| 2011-2014 | Medical Neuroscience: Neuroanatomy labs (10 contact hr) |
| 2010-2011 | Developmental Neuroscience: Neurodegenerative diseases (2 contact hr) |
| 2011-2012 | Co-Director Systems Neuroscience course (NRSC 0212) |
| 2011-2014 | Director, Neuroscience Seminar Series |
| 2012-present | Co-director, Tutorials in Neural Systems & Disease Mechanisms (NRSC 0312) |
| 2012-present | Co-director, System Neuroscience (NRSC 0310) |
| 2010-present | "Alzheimer's Disease" tutorial in NRSC 0312 (2 contact hr) |
| 2012-present | "Plasma membrane protein targeting/trafficking" tutorial in Cellular & Molecular Tutorials in Neuroscience (2 contact hr) |
| 2017-present | "Neuroinflammation and AD" lecture in "Inflammation and Disease" course provided by the Cell, Molecular & Developmental Biology Program at the Sackler School of Graduate Biomedical Sciences. |

**3. International Schools/Courses:**

2005 Lecturer, "Models of Alzheimer's Disease", Ettore Majorana Foundation and Centre for Scientific Culture, International School of Medical Sciences, 127th Course, The

Neurodegenerative Process: Biology, Models, and Diseases. October 15-19, 2005. Erice, TP, Italy.

2007 Lecturer, "Regulation of β-Amyloidogenic Secretases: Clues for the Pathogenesis and Treatment of AD". The Programme of European Neuroscience Schools (PENS) Summer School July 8-15, Ofir, Portugal.

2007 Lecturer, "Searching for New Treatment Targets in Neurodegenerative Disorders. The Programme of European Neuroscience Schools (PENS) Summer School July 8-15, Ofir, Portugal.

## PROFESSIONAL SOCIETIES

| | |
|---|---|
| 1990-present | Medical Association of Physicians and Surgeons, Florence, Italy |
| 1996-present | Society for Neuroscience |
| 2005-2006 | American Society for Biochemistry and Molecular Biology |
| 2011-present | American Society of Neurochemistry |
| 2016-present | American Society for Biochemistry and Molecular Biology |

## MAJOR RESEARCH INTERESTS (1/2 page maximum)

Alzheimer's disease (AD) is a devastating neurodegenerative disorder that results in loss of memory and cognitive function, eventually leading to dementia. A key neuropathological event in AD is the cerebral accumulation of a ~4kDa peptide termed Aβ, the principle component of senile plaques. Amyloid plaques are formed by aggregates of amyloid-β-peptides, 37-43 amino-acid fragments (predominantly $A\beta_{40}$ and $A\beta_{42}$) derived by serial proteolysis of the amyloid precursor protein (APP) by β- and γ-secretase.

Beta-site APP-cleaving enzyme (BACE1) is a membrane-tethered member of the aspartyl proteases that has been identified as β-secretase. It has been known for several years that strokes and head injuries can increase the risk of Alzheimer's Disease, but the mechanisms underlying that increased risk remain to be elucidated. My laboratory has shown how brain cell death caused by such traumas can lead to the production of amyloid-beta through the dysregulation of BACE1 levels in the brain. We identified a novel mechanism that regulates BACE1 levels and activity via the trafficking molecules GGA1 and GGA3 (golgi-localized gamma-ear-containing ARF binding protein 1-3). We have previously shown that BACE1 is degraded via the lysosomal pathway and that depletion of the BACE1-trafficking molecule GGA3 results in increased BACE1 levels and activity owing to impaired lysosomal trafficking and degradation. Successively, we reported that BACE1 degradation is also regulated by GGA1 and BACE1 ubiquitination. More recently we have identified the endosomal-associated deubiquitinating enzyme USP8 as a negative regulator of BACE1 ubiquitination and degradation.

The importance of GGAs' control of BACE1 levels was supported by the observation that, in brain tissue from Alzheimer's patients, reductions in GGA1 and 3 were tightly correlated

with elevations in BACE1, particularly in those areas most affected by the disease. Our work indicates that stroke and head trauma, can trigger a series of biochemical events that increase amyloid-beta production in the brain, and subsequent development of Alzheimer's Disease. Our studies may, ultimately, prove essential to the development of novel therapies that interfere with these biochemical signaling events and, in the process, reduce the risk of Alzheimer's Disease in stroke and head trauma patients. More recently, we have identified a loss of function GGA3 mutation associated with increased risk of developing AD. This recent discovery indicates that both genetic and environmental factors can results in GGA3 loss of function leading to increase BACE1 levels and Aβ pathology.

During the last few years, we have begun to employ iPSC-derived neurons as a model system to study AD. We have successfully established a protocol to differentiate iPSCs in cortical neurons using both control and patient-derived lines. We have collected and banked ~20 iPSC lines from both sporadic and familial AD patients and a similar number of control lines. We are planning to extend this approach to other neurological diseases and establish a core facility that will allow other Faculty to use this model. We are currently studying the electrical properties of AD and control neurons in collaboration with Dr. Dan Cox. We will use these cultures to study how exosomes contribute to the spreading of beta-amyloid in collaboration with Dr. Yongjie Yang. In collaboration with Dr. David Kaplan, we have developed a novel bioengineered model of iPSC-derived neural tissue (Cantley et al. submitted). This biomaterial design was adapted from our previous model with primary embryonic rodent brain cells, as well as from human induced neural stem cells. Our silk-collagen protein-based "donut" scaffolds can support compartmentalized, 3D brain-like tissues (neurons and astrocytes) over a year, without necrosis. More importantly, iPSC-derived neurons develop spontaneous action potentials, and networks and show synaptic activity typical of fully mature neurons. We plan to use this model to study the impact of Alzheimer's disease genetic variants on the development of AD-like phenotype in vitro.

**RESEARCH SUPPORT** (present active grants and brief summary of past research)

**Federal Active:**

2R01NS092497-06 (Tesco) 09/01/2015-08/31/19 NIH/NINDS $360,938
Role of BACE in the pathogenesis of Alzheimer's disease after head trauma
Goal: To determine the extent to which overexpression of GGA3 decreases BACE1 levels and ameliorates functional outcome post-TBI and in a mouse model of AD.
Role: PI

1RF1AG057148-01 (Tesco) 09/01/2017-06/30/22 NIH/NIA $3,106,744
BACE1 trafficking and degradation in Alzheimer's disease
Goal: To determine the extent to which GGA3 and USP8 regulate BACE1 axonal trafficking and lysosomal degradation in neurons and their dysfunction results in BACE1 accumulation in pre-synaptic dystrophic neurites observed in AD.
Role: PI

1RF1AG059610-01 (Tesco, Yang) 09/15/2018 - 03/31/2023 NIH/NIA $577,499
Neuronal/Glial exosome signaling and beta-amyloid propagation in Alzheimer's Disease (AD)
Role: MPI
Goal: to determine the extent to which exosomes mediate Aβ pathology propagation.

**Federal Completed:**

1R01AG025952 (Tesco) 02/01/07-01/31/11 NIH/NIA $1,251,000
Role of BACE stabilization in AD
Goal: To determine the molecular mechanisms that regulate the activity and stability of β-secretase associated with apoptosis/caspase activation both in vitro and in animal models of ischemia.
Role: PI

5R01AG025952-07 (Tesco) 9/15/2011-05/31/17 NIH/NIA $1,743,660
Role of BACE stabilization in Alzheimer's disease
Goal: To determine the extent to which GGA- and ubiquitin-mediated regulation of BACE1 represent a potential target for the treatment of AD.
Role: PI

5R01AG033016-05 (Tesco) 08/15/09-07/31/15 NIH/NIA $1,647,477
Role of BACE in the pathogenesis of Alzheimer's disease after head trauma
Goal: To determine the role of GGA3 depletion and BACE elevation in the pathogenesis of AD following head trauma.
Role: PI

9R56NS092497-06 (Tesco) 09/30/2014-08/31/2015 NIH/NINDS $412,500
Role of BACE in the pathogenesis of Alzheimer's disease after head trauma
Goal: To determine the extent to which overexpression of GGA3 decreases BACE1 levels and ameliorates functional outcome post-TBI and in a mouse model of AD.
Role: PI

**Non-Federal Active**:

Cure Alzheimer's Fund (Tesco) 01/15/2018-01/14/2020 $150,000
Characterization of GGA3 mutations
Role: PI

**Non-Federal Completed**

Rozan Award 07/01/2017-06/30/2018 $25,000
Modeling Parkinson's disease using iPSc-derived human dopaminergic neurons
Goal: Generation and characterization of iPSC-derived dopaminergic neurons
Role: PI

Cure Alzheimer's Fund (Tesco) 1/1/2012-12/31/2013 $100,000
Role of ADAM10 in the pathogenesis of Alzheimer's disease after head trauma
Role: PI

Cure for Alzheimer's Fund (Tesco) 1/1/2008-12/31/2009 $50,000
Role of BACE1 in the pathogenesis of Alzheimer's Disease following traumatic brain injury
Role: PI

Neuroscience Pilot Study Award (Dulla) 1/6/2012-5/31/2013 Tufts University $50,000
Modulation of brain metabolism to improve recovery from traumatic brain injury
Role: Co-PI

Cure Alzheimer's Fund (Tesco) 01/01/2016-06/31/2017 $150,000
Characterization of GGA3 mutations
Role: PI

**Federal Pending**

1R01AG061838-01 (Tesco, Haydon, Kaplan) 12/01/2018-11/30/2023 NIH/NIA
Study of cell-type specific Alzheimer's disease genetic variants using a novel bioengineered model of iPSC-derived neural tissue
Role: MPI

Goal: Assess genotype-phenotype relationship of AD genetic variants enriched in astrocytes and microglia in patient-derived 3D brain-like cultures

## EDITORIAL BOARDS AND ACTIVITY

**Tesco G.** *Guest Editor* New Advances in Alzheimer's Disease: From Biology to Therapy, Current Genomics, Volume 8, Number 8, December 2007, pp. 484-485(2).

**Tesco G.** *Guest Editor* The International Journal of Cell Biology Volume 2013 (2013).

**Tesco G**. Co-Organizer and Co-Chair, Colloquium: New Horizons in Alzheimer's Disease: Novel Mechanisms and Therapeutic Approaches. 2012 ASN Annual Meeting, Baltimore MD.

**Tesco G.** Co-Chair Symposium 50, Secretase 2, 11th International Conference on Alzheimer's and Parkinson's Disease, ADPD meeting 2013, Florence, Italy, March 6-10, 2013.

**Tesco G.** Chair: Therapeutics. Meeting on BACE proteases in health and disease, October 6-8 2013, Kloster Seeon, Germany.

**Tesco G**. Co-Chair, Minisymposium: Genes, Environment and Cognitive Function. Society of Neuroscience Annual meeting San Diego, CA, November 11, 2013.

Role of BACE1 in Cognitive Function, from Alzheimer's Disease to Traumatic Brain Injury. In Orly Lazarov and **Giuseppina Tesco**, editors: Lazarov - Genes, Environment & Alzheimer's Disease, Oxford: Academic Press, 2016, pp. 239 - 266.

**Tesco G**. Chair, Nanosymposium, Alzheimer's Disease and Other Dementias: APP and Metabolites: Cleavage and Processing, SFN meeting 2018, San Diego, CA Wednesday, November 7, 2018.

## BIBLIOGRAPHY

*a) Refereed (i.e., peer-reviewed) papers*

1. **Tesco G**., Latorraca S., Piersanti S., Piacentini S., Amaducci L., Sorbi S. Protection from oxygen radical damage in human diploid fibroblasts by acetyl-L-carnitine. Dementia,1992; 3:58-60.

2. Sorbi S, **Tesco G.**, Nacmias B., Mortilla M., Forleo P., Latorraca S., Piersanti P., Piacentini S., Amaducci L. Absence of APP717 mutation in Italian FAD families. Internat. J. Geriatr. Psychiat., 1992;7:304.

3. **Tesco G.**, Latorraca S., Piersanti S., Piacentini S., Amaducci L., Sorbi S. (1992): Alzheimer's skin fibroblasts show increased susceptibility to free radicals. Mech. Ageing Develop., 1992; 66:117-120.

4. **Tesco G.**, Vergelli M., Amaducci L., Sorbi S. Growth properties of familial Alzheimer skin fibroblasts during in vitro aging. Exper. Gerontol.1993;28 : 51-58.

5. Latorraca, S., P. Piersanti, **Tesco G.**, S. Piacentini, L. Amaducci, and S. Sorbi (1993): Effect of phosphatidylserine on free radical susceptibility in human diploid fibroblasts. J. Neural Transm. 1993; [P-D Sect] 6: 73-77.

6. Failli, P., **Tesco G.**, Ruocco C., Ginestroni A., Amaducci L., Giotti A., Sorbi S.The effect of tetraethylammonium on intracellular calcium concentration in Alzheimer' s disease fibroblasts with APP, S182 and E5-1 missense mutations. Neuroscience Letters 1996; 208:216-218.

7. Grassilli E., Bellesia E., Salomoni P., Croce MA., Sikora E., Radziszewska E., **Tesco G.**, Vergelli M., Latorraca S., Barbieri D., Fagiolo U., Santacaterina S., Amaducci L., Tiozzo, R., Sorbi S. and Franceschi C. c-fos/c-jun expression and AP-1 activation in skin fibroblasts from centenarians. Biochem. Biophys. Research Comm. 1996;226:517-23

8. Meiri N., Ghelardini C., **Tesco G.**, Galeotti N., Dahl D., Tomsic D., Cavallaro S., Quattrone A., Capaccioli S., Bartolini A., Alkon D.L. Reversible antisense inhibition of Shaker-like Kv1.1 potassium channel expression impairs associative memory in mouse and rat. PNAS 1997;94:4430-4434

9. **Tesco G.**, Vergelli M., Grassilli E., Salomoni P., Bellesia E., Sikora E., Radziszewska E., Barbieri D., Latorraca S., Fagiolo U., Santacaterina S., Amaducci L., Tiozzo R., Franceschi C. and Sorbi S. Growth properties and growth factor responsiveness in skin fibroblasts from centenarians. Biochem. Biophys. Research Comm. 1998:224 (3):912-916

10. **Tesco G.**, Kim T.-W., Diehlmann A. Beyreuther K., Tanzi R.E. Abrogration of the presenilin 1/β-catenin interaction and preservation of the heterodimeric presenilin 1 complex following caspase activation. J. Biol. Chem., 1998 Dec 18;273(51):33909-14.

11. Yoo AS, Cheng I, Chung S, Grenfell TZ, Lee H, Pack-Chung E, Handler M, Shen J, Xia W, **Tesco G**, Saunders AJ, Ding K, Frosch MP, Tanzi RE, and Kim T-W. Presenilin-

mediated modulation of capacitative calcium entry. Neuron 2000; 27: 561-572.

12. **Tesco G**, Tanzi RE. GSK3β forms a tetrameric complex with endogenous PS1-CTF/NTF and β-catenin: Effects of D257A/D385A and FAD-linked mutations. Ann N Y Acad Sci.2000;920:227-32.

13. **Tesco G**, Koh YH, Tanzi RE. Caspase activation increases Aβ generation independently of caspase cleavage of APP. J. Biol. Chem., 2003 Nov 14;278(46):46074-80.

14. Chang Y, **Tesco G**, Jeong WJ, Lindsley L, Eckman EA, Eckman CB, Tanzi RE, Guénette SY γ-secretase processing of APP C-terminal fragments is enhanced by FE65L1 binding and results in increased generation of Aβ and AICD at or near the cell surface. J. Biol. Chem., 2003 Dec 19;278(51):51100-7.

15. Xie Z, Moir RD, Romano DM, **Tesco G**, Kovacs DM, Tanzi RE Hypocapnia Induces Caspase-3 Activation and Increases Aβ Production. Neurodegenerative Diseases, 2004, 1: 29 – 37.

16. Koh Y.H., von Arnim C.A.F., Hyman B.T., Tanzi R.E.^ and **Tesco G^.** BACE is degraded via the lysosomal pathway**.** J. Biol. Chem. 2005 Sep 16;280(37):32499-504.
**^ corresponding author**
Cited by 173.

17. **Tesco G.**, Ginestroni A., Hiltunen M., Kim M., Dolios G., Hyman B.T., Wang R., Berezovska O., Tanzi R.E. APP substitutions V715F and L720P alter PS1 conformation and differentially affect Aβ and AICD generation. J. Neurochem. 2005 Oct;95(2):446-56.

18. Hiltunen M, Lu A, Thomas AV, Romano DM, Kim M, Jones PB, Xie Z, Kounnas MZ, Wagner SL, Berezovska O, Hyman BT, **Tesco G**, Bertram L, Tanzi RE. Ubiquilin 1 modulates amyloid precursor protein trafficking and Abeta secretion. J Biol Chem. 2006 Oct 27;281(43):32240-53. Epub 2006 Aug 31.

19. **Tesco G.^**, Koh Y.H., Kang E.L., Cameron A.N., Das S., Sena-Esteves M., Hiltunen M., Yang S-H., Zhong Z., Shen Y, Simpkins J. and Tanzi R.E.^. Depletion of GGA3 stabilizes BACE and enhances β-secretase activity. Neuron. 2007 Jun 7;54(5):721-37.
**^ corresponding author**
Comment on: Neuron. 2007 Jun 7;54(5):721-37.
Featured in: Nature Medicine 13, 911 (2007) Research Highlights.
Cited by 346.

20. Myre MA, Washicosky K, Moir RD, **Tesco G**, Tanzi RE, Wasco W. Reduced amyloidogenic processing of the amyloid beta-protein precursor by the small-molecule Differentiation Inducing Factor-1, Cell Signal. 2009 Apr;21(4):567-76. Epub 2008 Dec 25.

21. Minji Kim, Donna Romano, Mimy H. Troung, Kristina Mullin, David Norton, **Giuseppina Tesco,** Kathy Elliott, Steven L. Wagner, Robert D. Moir, K. David Becker, Rudolph E. Tanzi. Potential late-onset Alzheimer disease-associated mutations in the

ADAM10 gene. Hum Mol Genet. 2009 Oct 15;18(20):3987-96. Epub 2009 Jul 15.

22. Davide Gianni, Airong Li, **Giuseppina Tesco**, Kenneth M. McKay, John Moore, Kunal Raygor, Marcello Rota, Judith K Gwathmey, G William Dec, Thomas Aretz, Annarosa Leri, Marc J Semigran, Piero Anversa, Thomas E Macgillivray, Rudolph E. Tanzi, Federica del Monte. Protein Aggregates and Novel Presenilin Gene Variants in Idiopathic Dilated Cardiomyopathy. Circulation. 2010 Mar 1. [Epub ahead of print].

23. Kang E.L., Cameron A.N., Fabrizio Piazza, Walker K.R., **Tesco G**. Ubiquitin regulates GGA3-mediated degradation of BACE1. J Biol Chem. 2010 Jul 30;285(31):24108-19. Epub 2010 May 18.

24. Mannix RC, Zhang J, Park J, Zhang X, Bilal K, Walker K, Tanzi RE, **Tesco G**, Whalen MJ. Age-dependent effect of apolipoprotein E4 on functional outcome after controlled cortical impact in mice. J Cereb Blood Flow Metab. 2010 Jun 30. [Epub ahead of print].

25. Kittelberger KA, Piazza F, **Tesco G**, Reijmers LG. Natural amyloid-Beta oligomers acutely impair the formation of a contextual fear memory in mice. PLoS One. 2012;7(1):e29940. Epub 2012 Jan 4.

26. Biscaro B, Lindvall O, **Tesco G**, Ekdahl CT, Nitsch RM. Inhibition of microglial activation protects hippocampal neurogenesis and improves cognitive deficits in a transgenic mouse model for Alzheimer's disease. Neurodegener Dis. 2012;9(4):187-98. Epub 2012 May 8.

27. Walker K., Kang E.L., Whalen MJ., Shen Y. and **Tesco G**. Depletion of GGA1 and GGA3 mediates postinjury elevation of BACE1. J Neurosci. 2012 Jul 25;32(30):10423-37.

28. Kang E.L., Biscaro B., Piazza F., **Tesco G**. BACE1 endocytosis and trafficking are differentially regulated by ubiquitination at lysine 501 and the di-leucine motif in the C-terminus. J Biol Chem. 2012 Dec 14;287(51):42867-80.

29. David Cantu, Kendall Walker, Lauren Andresen, Amaro Taylor-Weiner, Jokubas Ziburkus, **Giuseppina Tesco**, Chris Dulla. Traumatic Brain Injury Alters Cortical Glutamate Network Function by Compromising GABAergic Control. *Cereb. Cortex (*2014) doi: 10.1093/cercor/bhu041 First published online: March 7, 2014. PubMed PMID: 24610117.

30. Kendall R. Walker, Amit Modgil, David Albrecht, Selene Lomoio, Philip G. Haydon, Stephen J. Moss and **Giuseppina Tesco**. Genetic deletion of the clathrin adaptor GGA3 reduces anxiety and alters GABAergic transmission. PLoS One. 2016 May 18;11(5):e0155799. doi: 10.1371/journal.pone.0155799. eCollection 2016.

31. Eniola Funmilayo Aduke Yeates and **Giuseppina Tesco**. The endosomal-associated deubiquitinating enzyme USP8 regulates BACE1 ubiquitination and degradation. J Biol Chem. 2016 Jun 14. pii: jbc.M116.718023. [Epub ahead of print] PMID:27302062. This paper was read 424 times on the JBC website in June and July.

32. WonHee Kim, Liang Ma, Selene Lomoio, Rachel Willen, Jinghui Dong, Philip Haydon, and **Giuseppina Tesco**. GGA3 deficiency elevates BACE1 and increases β-amyloid pathology in a transgenic mouse model of Alzheimer's disease, Mol Neurodegener. 2018 Feb 2;13(1):6. doi: 10.1186/s13024-018-0239-7.PMID:29391027

33. Hartmann S, Zheng F, Kyncl MC, Karch S, Voelkl K, Zott B, D'Avanzo C, Lomoio S, **Tesco G**, Kim DY, Alzheimer C, Huth T. β-Secretase BACE1 Promotes Surface Expression and Function of Kv3.4 at Hippocampal Mossy Fiber Synapses. J Neurosci. 2018 Apr 4;38(14):3480-3494. doi: 10.1523/JNEUROSCI.2643-17.2018. Epub 2018 Mar 5. PMID:29507146

34. Cantley, William; Du, Chuang; Lomoio, Selene; DePalma, Thomas; Peirent, Emily; Kleinknecht, Dominic; Hunter, Martin; Tang-Schomer, Min; **Tesco, Giuseppina**; Kaplan, David. Functional and Sustainable 3D Human Neural Network Models from Pluripotent Stem Cells. ACS Biomaterials Science & Engineering. In press.

35. Selene Lomoio, Rachel Willen, Kevin Z. Ho, WonHee Kim, Edward K. Robinson, Rudolph E. Tanzi, Giuseppina Tesco. GGA3 loss of function induces BACE1-dependent axonal dystrophies *in vitro* and *in vivo.* In preparation

*b) Proceedings of Meetings (Articles and Book)*

1. Sorbi S., Mortilla M., Piacentini S., **Tesco G.**, Tonini S., Amaducci L. (1989): Lactate production and glycolytic enzymes in skin cultured cells from Alzheimer's disease patients. In: Biological Markers of Alzheimer's Disease, Springer-Verlag, Heidelberg, p. 163-166.

2. Sorbi S., Mortilla M., Piacentini S., **Tesco G.**, Latorraca S., Nacmias B., Amaducci L. (1990): Lactate production and glycolytic enzymes in sporadic and familial Alzheimer's disease. In: Key topics in Brain Research, Maurer K., Rieder P., Beckmann H. (Eds.), p.195-199.

3. Mortilla M., Sorbi S, Latorraca S., **Tesco G.**, Piacentini S., Tonini S., Amaducci L. (1990): Normal lactate production and altered hexokinase activity in fibroblasts and leukocytes from familial Alzheimer's disease patients. In: Alzheimer's Disease: Basic Mechanisms, Diagnosis and therapeutic strategies, John Wiley and Sons, Ltd., Sussex, England, pp.565-568.

4. Sorbi S., Nacmias B., Mortilla M., Piacentini S., Marcon G., Piersanti P., Ballerini, Forleo P., **Tesco G.**, Latorraca S., Amaducci L. (1991): Linkage analysis in Italian pedigrees with autosomal dominant familial Alzheimer's disease. In: Cerebral Ischemia and Dementia, Hartmann A., Kuschnisky W., Hoyer S. (eds.), Springer, Heidelberg, p. 185-186.

5. Amaducci L., Crook T.H., Lippi A., Bracco L., Baldereschi M., Latorraca S., Piersanti P., **Tesco G.**, Sorbi S. (1991): Use of phosphatidylserine in Alzheimer's disease. In: Ann. N.Y.Acad. Sci USA, 640:245-9.

6. **Tesco G.**, Latorraca S., Piersanti P., Sorbi S., Piacentini S., Amaducci L. (1992): Free radical injury in skin cultured fibroblasts from Alzheimer's disease patients. Physiopathology Proc. of Aging, New York Acad. Sci., 673:149-153.

7. **Tesco G.**, Kim T-W, Tanzi RE. (1999): Caspase cleavage abolishes molecular interaction between presenilin1 and β-catenin. In: Alzheimer's disease and related disorders, K. Iqbal, D.F. Swaab, B. Winblad, H.M. Wisnieswski (eds) Wiley, West Sussex 347-351

*c) Reviews and Book Chapters*

1. Amaducci L. and **Tesco G.** Aging as a major risk for degenerative disease of the central nervous system: editorial commentary. Current Opinion in Neurology 1994:Vol. 7, 4:283-286

2. **Tesco G.** and Tanzi RE. (2001): Presenilins. In *Encyclopedia of Molecular Medicine* (5) 2568-2570.

3. Walker KR and **Tesco G**. Molecular mechanisms of cognitive dysfunction following traumatic brain injury. Front Aging Neurosci. 2013 Jul 9;5:29. Print 2013

4. Klaver DW and **Tesco G**. Modulation of BACE1 activity as a potential therapeutic strategy for treating Alzheimer's disease. In Inhibitors of Enzymes Involved in Alzheimer's Disease and Related Disorders'. Frontiers in Drug Design and Discovery, Volume 6, Pp. 478-517. Editors: Atta-ur-Rahman, Mohammad Iqbal Choudhary, 2014.

5. Lombardo S. and **Tesco G**. Role of BACE1 in Cognitive Function, from Alzheimer's Disease to Traumatic Brain Injury. In Orly Lazarov and Giuseppina Tesco, editors: Lazarov - Genes, Environment & Alzheimer's Disease, Oxford: Academic Press, 2016, pp. 239 - 266.

*d) Editorials and Commentaries*

1. **Tesco G.** Editorial [New Advances in Alzheimer's Disease: From Biology to Therapy Guest Editor: Giuseppina Tesco], Current Genomics, Volume 8, Number 8, December 2007, pp. 484-485(2).

2. **Tesco G.** Autophagy: a common road to perdition in acute brain injuries and Alzheimer's disease. J Neurochem. 2012 Feb;120(4):475-6.

*e) Patents*

1. Tanzi, RE, **Tesco, G** and Koh,YH. Methods for identifying compounds that modulate stabilization of secretase-associated proteins. U.S. Patent 7,326,540. February 5, 2008.

2. Tanzi, RE and **Tesco G**. Measurement of GGA proteins for diagnosing BACE associated disease. US patent 7,781,177. August 24, 2010.

3. Tanzi, RE and **Tesco G**. Regulation of BACE degradation. US patent 8,273,543. September 25, 2012

*f) Invited lectures (last 5 years)*

2013 Regulation of BACE1: implications for Alzheimer's disease. School of Medicine, University of Florence, Florence, Italy. March 12, 2013.

Dementia post-stroke and post-TBI: molecular mechanisms. VIII Conference of the Italian Society for the Study of Dementia, Perugia, Italy March 13-15, 2013.

Regulation of BACE1 degradation: implications for Alzheimer's disease. Department of Neuroscience, Jefferson University, Philadelphia, PA. April 16, 2013.

Regulation of BACE1 degradation: implications for Alzheimer's disease. Department of Anatomy and Cell Biology, UIC, Chicago, IL. September 10, 2013.

Regulation of BACE1 degradation in health and disease. Meeting on BACE proteases in health and disease, October 6-8 2013, Kloster Seeon, Bavaria, Germany.

Linking acute brain injuries to Alzheimer's disease: role of BACE1 elevation Minisymposium: Genes, Environment and Cognitive Function. Society of Neuroscience Annual Meeting San Diego, CA, November 11, 2013.

2014 Trafficking and degradation of the Beta-Amyloid Producing Enzyme, BACE1: Implications for Alzheimer's Disease. *Dipartimento di Scienze Biomediche Sperimentali e Cliniche,* Sezione di Patologia e Oncologia Sperimentali, University of Florence, Florence, Italy, April 15, 2014.

2015 Post-translational regulation of BACE1 in health and disease. Department of Pharmacology, University of Milan, Milan, Italy April 8, 2015.

2016 Trafficking and degradation of the Beta-Amyloid Producing Enzyme, BACE1: Implications for Alzheimer's Disease, Department of Medicine and Surgery, School of Medicine, University of Milan Bicocca, Milan, Italy, July 12, 2016.

The endosomal-associated deubiquitinating enzyme USP8 regulates the ubiquitination and degradation of the Alzheimer's disease protease BACE1. September 2, 2016 USDA Human Nutrition Research Center on Aging, Tufts University, Boston, MA.

BACE1 Trafficking and Degradation. 2nd Kloster Seeon Meeting on BACE Proteases in Health and Disease, Kloster Seeon, October 25 – 27, 2016 Bavaria, Germany.

2017 Trafficking and degradation of the Beta-Amyloid Producing Enzyme, BACE1: Implications for Alzheimer's Disease, Department of Neurology, Massachusetts General Hospital, Harvard Medical School, March 6$^{th}$, 2017, Charlestown, MA.

Trafficking and degradation of the Beta-Amyloid Producing Enzyme, BACE1:

Implications for Alzheimer's Disease, Department of Biological and Clinical Sciences, University of Florence, Florence, Italy, May 30th, 2017.

Modeling Alzheimer's disease in a dish: from mouse to human neurons, Molecular and Cell Biology Laboratory, Department of Neurosciences, Psychology, Pharmacology and Child Health, University of Florence and Pediatric Neurology Unit, Meyer Children's Hospital, Florence, Italy, December 20th, 2017.

2018 Modeling Alzheimer's disease in a dish: from mouse to human neurons, Department of Cell Biology and Anatomy, UIC, Chicago, Il, February 28th, 2018.

Modeling Alzheimer's disease in a dish: from mouse to human neurons, George & Anne Ryan Institute for Neuroscience, Department of Cell and Molecular Biology, University of Rhode Island, Kingston, RI, April 17th, 2018.

BACE1 Ups and Downs: implications for AD, Fusion Conference's Targeting Therapy of Alzheimer's and Related Neurodegenerative Diseases 1–4 June 2018 Nassau, Bahamas.