



UNIVERSITÀ DEGLI STUDI DI MILANO

[Dr Maciej Stanislaw Tarkowski] rif: Codice ID 6867



## CURRICULUM VITAE

### INFORMAZIONI PERSONALI

<b>Cognome</b>	TARKOWSKI
<b>Nome</b>	MACIEJ STANISLAW

### ISTRUZIONE E FORMAZIONE

Titolo	Corso di studi	Università	anno conseguimento titolo
Laurea Magistrale o equivalente	Corso di laurea magistrale in biologia equivalente	Facoltà di Biologia e Scienze della Terra Università di Lodz, Polonia	23.06.1989
Specializzazione	Microbiologia	Università di Lodz, Polonia	23.06.1989
Dottorato Di Ricerca	Scienze mediche di biologia medica	Istituto di Medicina del Lavoro, Lodz, Polonia	30.06.1994
	Medicina Clinica e Sperimentale	Università degli Studi di Milano	21.06.2017
Master			
Diploma Di Specializzazione Medica			
Diploma Di Specializzazione Europea			
Altro	Post-dottorato	Istituto di Medicina del Lavoro, Lodz, Polonia	15.03.2005
Altro	Professore associato	Istituto di Medicina del Lavoro, Lodz, Polonia	1.12.2005
Altro	Training in Pharmaceutical Development and Chemical Safety	Polytechnic of East London, Faculty of Science	5-10.01.1992
Altro	English Language Programms, Pre-Academic training	University of Pennsylvania, Philadelphia, USA	5-25.08.1995
Altro	5 <sup>th</sup> Course n Next Generation Sequencing	University Residencial Centre of Bertinoro, Italy	4-7.05.2016
Altro	Corso di Perfezionamento in Citofluorimetria di Ultima Generazione:	Università degli Studi di Milano, Italia	20-24.09.2021



## LINGUE STRANIERE CONOSCIUTE

lingue	livello di conoscenza
Polacco	Madre lingua
Italiano	B1
Inglese	C1

## PREMI, RICONOSCIMENTI E BORSE DI STUDIO

anno	Descrizione premio
1994/1995	Fulbright Programm award
1996,1997,1999, 2000	American Academy of Allergy, Asthma and Immunology awards
2002/2003	Fellowship of Belgium Federal Science Policy Office
1.06. 2020	L'Onorificenza di Cavaliere "Al merito della Repubblica Italiana" conseguita da Presidente Sergio Matarrella.



## ATTIVITÀ DI FORMAZIONE O DI RICERCA

### descrizione dell'attività

La mia attività di ricerca verte in generale sui meccanismi del sistema immunitario in risposta alle infezioni, manifestazioni allergiche e altri agenti scatenanti. La mia attività recente è focalizzata sulla risposta umorale e cellulo-mediata contro il virus SARS-CoV-2 in pazienti infetti e in pazienti vaccinati contro il COVID-19. Durante le prime fasi della pandemia ho partecipato all'introduzione e lo sviluppo di test di laboratorio volti a individuare e isolare il virus SARS-CoV-2. Ho lavorato sull'applicazione del test di neutralizzazione di anticorpi e del saggio multiplex per determinare il livello di anticorpi specifici anti-SARAS-CoV-2. La stretta correlazione tra l'attività di ricerca da me svolta e l'argomento del presente bando è confermata dal mio CV e dalla lista delle pubblicazioni che qui vi sottometto.

Nel corso della mia attività di ricerca ho acquisito esperienza in diverse metodiche applicate a materiali differenti. Tra queste cito:

A) Materiali biologici di origine umana e animale. Procedure sperimentali su animali da laboratorio (topi e ratti)

1. Sensibilizzazione allergica all'OVA o allergeni chimici a basso peso molecolare
2. immunizzazione antigenica
3. stimolazione antigenica e esposizione del tratto respiratorio
4. studi sulla fisiologia del tratto respiratorio
5. test di anafilassi cutanea passiva
6. trasferimento cellulare passivo

B) Isolamento di cellule di origine umana e animale da diversi tessuti

1. Isolamento di diverse sottoclassi linfocitarie per mezzo di: separazione magnetica, selezione cellulare e sorting mediato da fluorescenza
2. isolamento di cellule endoteliale da cordone ombelicale
3. isolamento di cellule immunocompetenti da linfonodi e milza di topi e ratti
4. isolamento di cellule da lavaggio broncoalveolare in topi e pazienti
5. isolamento di cellule da lavaggio nasale

C) Tecniche di manipolazione cellulare

1. colture cellulari, a lungo e breve termine di diverse linee cellulari primarie
2. propagazione di linee cellulari e cloni cellulari antigene specifici

D) Tecniche di analisi cellulare

1. Analisi dell'attività chemotattica cellulare, adesione, migrazione, apoptosi e proliferazione
2. Caratteristiche cellulari a livello citofluorimetrico utilizzando strumentazione Becton Dickinson and Beckman Coulter e microscopia ottica
3. Analisi dell'attività cellulare con tecniche (e strumentazione) luminometriche e chemoluminometriche
4. analisi molecolari, valutazione dell'espressione genica per mezzo di RT-PCR quantitativa

E) Altre tecniche di laboratorio

1. analisi di polimorfismi di singoli nucleotidi con RT-PCR e sonde marcate
2. Enzime Linked Immunoassay
3. Western e Southern blot
4. elettroforesi su gel

F) Analisi dei dati

1. Conoscenza dei software di analisi: Excel, Word, statistical programs SPSS, Graph Pad Prism, StatWizzard per Mac, gene expression analyses software, Oracle VM, QIIME 2 per analisi delle sequenze batteriche



## CONGRESSI, CONVEGNI E SEMINARI

1. Tarkowski M., Pacheco K., Katlan M., Rosenwasser LJ., VLA-4 Expression on Allergen, Tetanus, and Candida T cell lines. *J. Allergy Clin Immunol.* 97: 411, 1996.
2. Tarkowski M., Pacheco K., Rosenwasser LJ. VLA-4 expression on memory/activated CD4+ T cells and their adhesion are upregulated by antigen stimulation. *J. Allergy Clin Immunol.*, 99: S386, 1997.
3. Pacheco K., Negri J., Tarkowski M., Fennelly K., Rosenwasser LJ., Borish L. Diesel exhaust particles suppress IL-10 and TGF- $\beta$  production; Benzo[a] pyrene mimics the effect. *J. Allergy Clin Immunol.*, 99: S404, 1997.
4. Tarkowski M., Inamura H., Gorski P., and Rosenwasser LJ. CD30 expression on allergen and nonallergen specific T cell lines. Expression of IL-4 mRNA by T CD4 or CD8 CD30+/- cells. *J. Allergy Clin Immunol.*, 103: S108, 1999.
5. Górski P. U.Ruta, T. Wittczak, P. Kuna, M. Tarkowski, R. Alam. The effect of intranasal challenge with MCP-3 and eotaxin in human subjects. *J. Allergy Clin. Immunol.*, 2000,105: S247.
6. M. Tarkowski, S. Chrul, J. Bodalski. The Effect of IL-18 on CD30 Expression and Cytokine Production by Allergic and Non-allergic T cell Lines. *J. Allergy Clin. Immunol.* 2001, 107: S78.
7. M. Tarkowski, S. Chrul, J. Bodalski. Interleukin-4 and interferon-gamma production by allergen and PPD stimulated T cells in the presence of IL-12 and IL-18. *Eur. Respir. J.*, 2001, 18:529s .
8. M. Tarkowski, S. Chrul, J. Bodalski. The effect of antigen stimulation on T cell CD30 expression and cytokine production. The role of IL-18. *Allergy*, 2001, 56: 113.
9. Maciej S. Tarkowski and James S.Wild. Effects of IL-18 on Th1 and Th2 Cytokines. American Academy of Allergy, Asthma and Immunology 58th Annual Meeting, New York, Seminar 2536, March 2, 2002.
10. M. Tarkowski. The effect of IL-18 on IL-4 and IL-5 production by allergen and PPD specific T cells. *J. Allergy Clin.Immunol.* 2002, 109: S70.
11. Tarkowski, S., Tarkowski M., Konczalik J., Respiratory and immunological findings in municipal waste workers. 27<sup>th</sup> International Congress on Occupational Health, Allergy and Immunology Session. 24-28 February, 2003, Iguassu,Brazil
12. M. Tarkowski. Immunological changes in a murine model of chemical-induced asthma. 15.10.2003. Referat wygłoszony na Uniwersytecie Katolickim w Leuven, Belgia.
13. M. Tarkowski, J.A.J. Vanoirbeek, P.H.M. Hoet, B. Nemery. Development of a murine model of chemical-induced asthma. Immunological changes in mice dermally sensitized to toluene diisocyanate. *Am. J. Respir. Crit. Care Med.*,169:A640, 2004.
14. J.A.J. Vanoirbeek, M. Tarkowski, P.H.M. Hoet, J. Ceuppens, B. Nemery. Development of a murine model of chemical-induced asthma. Ventilatory and lung inflammatory changes in mice dermally sensitized to toluene. *Am. J.Respir. Crit. Care Med.*, 169:A639, 2004.
15. J.A.J. Vanoirbeek, M. Tarkowski, B. Nemery and P. Hoet. Validation of a murine model of chemical induced asthma in mice using trimellitic anhydride and 1-chloro-2, 4-dinitrobenzene. The Annual Meeting of Society of Toxicologists, New Orleans, 6-10 March, 2005. *The Toxicologist*, 349, 2005.
16. B. Kur, W. Lutz, M. Barańska, M. Tarkowski. Cytokine release by keratinocytes in vitro exposure to nickel and cadmium salts. *Central European J. Immunol.* 30, 60, 2005.
17. M. Tarkowski, Kur B., Chrul S., Bodalski J. The effect of IL-12 and IL-18 on IL-4 and IFN-gamma production from antigen-specific T cells. *Central European J. Immunol.* 30, 113, 2005.
18. M. Tarkowski, J.A.J. Vanoirbeek, P.H.M. Hoet, J. Ceuppens, B. Nemery. Development of a murine model of chemical-induced asthma. Respiratory and immunological changes in mice dermally sensitized to toluene. *Central European J. Immunol.* 30, 113, 2005.
19. J.A.J. Vanoirbeek, M. Tarkowski, P.H.M. Hoet, B. Nemery. Time course of immunologic and ventilatory response to toluene diisocyanate after dermal sensitization in mice. *Amer.J.Respir. Crit.Care Med.* San Diego, 2006.
20. M. Tarkowski, J.A.J. Vanoirbeek, B. Kur, M. Barańska, P.H.M. Hoet, B. Nemery Development of a murine model to test for respiratory sensitization potentials of chemical allergens. Respiratory and immunological changes. 28<sup>th</sup> International Conference of Occupational Health, Milan, Italy, 11-16.06.2006
21. M. Tarkowski, L. Ferraris, B. Zanone Poma, E. Gianelli, F. Strambio, E. Lattuada, G. Paraninfo, M. Galli and A. Riva. Interleukin-15 is highly expressed by monocytes of HIV infected long-term nonprogressors and is responsive to IFN- $\gamma$  stimulation. XVII International AIDS Conference, Mexico City, Mexico, 3-8.08.2008.
22. L. Ferraris, E. Gianelli, F. Strambio De Castillia, E. Lattuada, G. Paraninfo, B. Martone, B. Zanone Poma, M. Galli, A. Riva, M. Tarkowski, and ELVIS. Dysregulation of the IL-15/IL-15R system by HIV-1 Infection in Monocytic Cell Lines and in Primary Monocytes. 16th Conference on Retroviruses and Opportunistic Infections, Montreal, Canada, 8-11,2009.
23. Maciej Tarkowski, Laurenzia Ferraris, Erika Gianelli, Francesco Strambio de Castillia, Emanuela Lattuada, Giuseppe Paraninfo, Przemysław Lewkowicz, Elzbieta Jablonowska, Massimo Galli and Agostino Riva , ELVIS Study Group. : Interleukin-15 and IL-15R expression on monocytes of HIV-1 infected long-term



nonprogressors and progressors. 7<sup>th</sup> International workshop on HIV, cells of macrophage/dendritic lineage and other reservoirs. Colombaro di Corte Franca, Italy, 19-21.04.2009.

24. F. Strambio de Castillia, M. Tarkowski, P. Lewkowicz, E. Jablonowska, S. Martone, M. Capasso, L. Ferraris, E. Gianelli, G. Quinzan, M. Di Pietro, R. Beretta, M. Fasolo, M. Galli and A. Riva, ELVIS Study Group. HIV-1 infected long-term non progressors in comparison to progressors show high IL-15 expression in monocytes and closely regulated system of expression of genes for IL15/IL15R $\alpha$  chain. Italian Conference on AIDS and Retroviruses, Milano, Italy, 24-26.05.2009

25. M. Tarkowski, P. Lewkowicz, E. Jablonowska, S. Martone, M. Capasso, L. Ferraris, E. Gianelli, F. Strambio de Castillia, G. Quinzan, M. Di Pietro, R. Beretta, M. Fasolo, M. Galli and A. Riva, ELVIS Study Group. Analyses of numbers and function of T regulatory cells from peripheral blood mononuclear cells of HIV long-term nonprogressors and progressors. . Italian Conference on AIDS and Retroviruses, Milano, Italy, 24-26.05.2009

26. A. Riva, M. Tarkowski, S. Martone, M. Nasi, S. Ghezzi, E. Gianelli, K. Maltempo, F. Strambio de Castillia, R. Mazzucchelli, C. Casoli, G. Poli, A. Cossarizza, M. Galli, for the E.L.V.I.S. Study Group (Evaluation of LTNP Viroimmunological Italian Studies). 2nd European Congress of Immunology, Berlin, Germany, September, 13-16, 2009.

27. M. Tarkowski, P. Lewkowicz, E. Jablonowska, D. Misciagna, A. Riva, and M. Galli , ELVIS Study Group. Peripheral blood T regulatory cells and Th17 cells and their genes expression profile in HIV-1 infected patients and healthy controls. . Italian Conference on AIDS and Retroviruses, Florence, Italy; 27-29 March 2011, Infection: 39:2011.

28. Tarkowski M, Misciagna D., Cozzi Lepri A, Peri A, ,Galli A, Angeli E, Magni C, Strambio De Castilla F, D'Arminio Monforte A, Uberti Foppa C, Galli M, Riva A. Combined effects of different IL28B and SLC29A polymorphisms on the outcome of dual combination therapy in HIV/HCV coinfecting individuals. Italian Conference on AIDS and Retroviruses, Napoli, Italy, June, 2012

29. Tarkowski M., Donatella Misciagna, Francesco Strambio de Castillia, Cristina Gervasoni, Chiara Resnati, Laurenzia Ferraris, Massimo Galli, and Agostino Riva. Expression of CD38 on monocytes of HIV infected people is indicative of the number of these cells undergoing senescence. International Workshop "HIV cure and eradication: a feasible option? Milan, January 24-25, 2013

30. M. Tarkowski, L. Uccellini, D. Misciagna, C. Gervasoni, F. Strambio, G. Poli, A. Cossarizza, C. Resnati, R. Piolini, F. Adorni, M. Galli, A. Riva TLR9 and IRF5 genetics and HIV-1 disease progression Italian Conference on AIDS and Retroviruses, Turin, Italy, May, 2013

31. D. Misciagna, M. Tarkowski, A. Crippa, D. Minisci, P. Meraviglia, C. Gervasoni, G. Rizzardini, C. Resnati, R. Piolini, F. Adorni, M. Galli and A. Riva. FTO gene polymorphisms influence ionized calcium levels in HIV-1 infected patients on antiretroviral therapy Italian Conference on AIDS and Retroviruses, Turin, Italy, May, 2013

32. Tarkowski Maciej, Donatella Misciagna, Francesco Strambio de Castillia, Cristina Gervasoni, Chiara Resnati, Laurenzia Ferraris, Massimo Galli, and Agostino Riva. Telomere length and CD38 expression on monocytes and CD8 T cells of HIV infected people. 15th International Immunology Congress, Milan, Italy August 2013

33. Tarkowski Maciej, Donatella Misciagna, Francesco Strambio de Castillia, Cristina Gervasoni, Chiara Resnati, Laurenzia Ferraris, Massimo Galli, and Agostino Riva. CD38 expression on monocytes marks cells with shorter telomeres and correlates with immune senescence in HIV infection. 14th European AIDS Conference, Brussels ,Belgium, October 16-19, 2013



## PUBBLICAZIONI

### Libri

1. M. Tarkowski. Leucocyte culture: Considerations for in vitro culture of T cells in immunotoxicological studies. Encyclopedic Reference of Immunotoxicology. Ed. Vohr H-W. Springer 2005, 377-384.

### Publicazioni :

1. Tarkowski M., Pacheco K., Dresback J., Rosenwasser L.J. CD49d expression and function on allergen stimulated T cells from blood and airway. *Amer. J. Respir. Cell Mol. Biol.* **18**:78-84, 1998.
2. Tarkowski M. Expression and function of CD30 on T lymphocytes. *Archivum. Immunologiae et Therapiae. Experimentalis.* **47**: 217-221, 1999
3. Tarkowski M., Pacheco K., Rosenwasser L.J. The effect of antigen stimulation on alpha-4, beta-1, and beta-7 chain integrin expression and function in CD4+ cells. *Int. Arch. Allergy Immunol.* 2000, **121**: 25-33.
4. Lutz W, Tarkowski M., Dudek B. Psychoneuroimmunology. A new approach to the function of immunological system. *Med Pr* 2001; **52**:203-209.
5. Lutz W, Tarkowski M., Nowakowska E. Genetic polymorphism of glutathione s-transferase as a factor predisposing to allergic dermatitis. *Med Pr* 2001; **52**:45-51.
6. Pacheco KA., Tarkowski M., Sterritt C., Negri J., Rosenwasser L.J., Borish L. The influence of diesel exhaust particles on mononuclear phagocytic cell-derived cytokines: IL-10, TGF-b and IL-1b. *Clin. Exp. Immunol.*, 2001, **126**: 374-383.
7. K. Rydzynski, T. Halatek, M. Stepnik, M. Tarkowski. Respiratory allergy and inflammation due to ambient particulate - a European-wide assessment (RAIAP) - Polish experience. *Int. Rev. Allergology Clin. Immunol.* **8**:161-166, 2002.
8. Tarkowski M., Chrul S., Bodalski J. The effect of IL-18 on IL-12 induced CD30 expression and IL-4 and IFN-g production by allergen and PPD specific T cells. *Clin. Exp. Immunol.* 2002, **127**: 78-84.
9. Tarkowski M. Expression and a role of CD30 in regulation of T cell activity. *Curr Opin Hematol.* **10**:267-271, 2003.
10. M. Tarkowski CD30 expression on allergen and nonallergen specific T cell lines and its role in cytokine production. *Archivum. Immunologiae et Therapiae. Experimentalis* **51**: 335-343, 2003.
11. J. A. J. Vanoirbeek, M. Tarkowski, J.L. Ceuppens, E.K. Verbeken, B. Nemery, and P. H. M. Hoet. Respiratory response to toluene diisocyanate depends on prior frequency and concentration of dermal sensitization in mice. *Toxicol. Science*, **80**:310-321, 2004
12. W. Lutz, C. Panczynski, M. Tarkowski. Inflammation as response to lung injury by occupational asthmogens May be modulated by nervous system. *Int. Rev. Allergol. Clin. Immunol.* **10**:115-123, 2005.
13. M. Tarkowski, B. Kur, W. Lutz. Cytokine release by keratinocytes In *in vitro* exposure to nickel and cadmium salts. *Int. Rev. Allergol. Clin. Immunol.* **10**:133-140, 2004.
14. M. Tarkowski, B. Kur, W. Lutz. Differentiation of potentials of chemicals to induce allergic or irritant contact dermatitis. *Int. Rev. Allergol. Clin. Immunol.* **10**:141-146, 2004.



15. Krakowiak, W. Dudek, M. Tarkowski, S. Swiderska-Kielbik, E. Niescierenko, C. Palczynski: Occupational asthma caused by cobalt chloride in diamond polisher after cessation of occupational exposure: a case report. *Int. J Occup Med. Environ Health* 2005, **18**: 151-158.
16. J. A. J. Vanoirbeek, M. Tarkowski, H.M. Vanhooren, V.De Vooght, B. Nemery, and P. H. M. Hoet. Validation of a mouse model of chemical-induced asthma using trimellitic anhydride, a respiratory sensitizer, and dinitrochloro-benzene, a dermal sensitizer. *J.Allergy Clin.Immunol.*, 2006, **117**:1090-1097.
17. M. Tarkowski, J. A. J. Vanoirbeek, H.M. Vanhooren, V.De Vooght, Caroline M. Mercier, Jan Ceuppens, B. Nemery, and P. H. M. Hoet. Immunological determinants of ventilatory changes induced in mice by dermal sensitization and respiratory challenge with toluene diisocyanate. *Am J Physiol.Lung Cell Mol. Physiol.* **292**:L207-L214, 2007.
18. Lewkowicz N, Lewkowicz P, Dzitko K, Kur B, Tarkowski M, Kurnatowska A, *et al.* Dysfunction of CD4+CD25high T regulatory cells in patients with recurrent aphthous stomatitis. *J Oral Pathol Med* 2008; **37**:454-461.
19. Tarkowski M, Kur B, Polakowska E, Jablonska E. Comparative studies of lymph node cell subpopulations and cytokine expression in murine model for testing the potentials of chemicals to induce respiratory sensitization. *Int J Occup Med Environ Health* 2008; **21**:253-262.
20. van Amelsvoort LGMP, Mohren D, Slangen J, Swaen G, Corsini E, Fustinoni S, T Vergieva, C Bosetti, J Liesivuori, Tarkowski M, Colosio C and H van Loveren. Immune effects and exposure to ethylenebisdithiocarbamate pesticides in re-entry workers in the Netherlands. *Hum Exp Toxicol* 2008; **27**:693-699.
21. Boers D, van Amelsvoort L, Colosio C, Corsini E, Fustinoni S, Campo L, C Bosetti, C La Vecchia, T Vergieva, M Tarkowski, J Liesivuori, P Steerenberg and H van Loveren. Asthmatic symptoms after exposure to ethylenebisdithiocarbamates and other pesticides in the Europit field studies. *Hum Exp Toxicol* 2008; **27**:721-727.
22. Vanoirbeek JA, Tarkowski M, De Vooght V, Nemery B, Hoet PH. Immunological determinants in a mouse model of chemical-induced asthma after multiple exposures. *Scand J Immunol* 2009; **70**:25-33.
23. Maciej Tarkowski, Barbara Kur, Marek Nocuń and Krystyna Sitarek. Perinatal exposure of mice to TCDD decreases allergic sensitisation through inhibition of IL-4 production rather than T regulatory cell-mediated suppression. *Int J Occup Me Environ Health* 2010, **23** :75-83.
24. Guernon J, Dalmasso C, Broet P, *et al.* Single-nucleotide polymorphism-defined class I and class III major histocompatibility complex genetic subregions contribute to natural long-term nonprogression in HIV infection. *J Infect Dis.* 2012 ; **205**: 718-24. (acknowledge authorship)
25. Tarkowski M, Ferraris L., Martone S., Strambio de Castillia F., Misciagna D., Mazzucchelli R.I., Lattuada E., Paraninfo G., Galli M., and Riva A. Expression of IL-15 and IL-15Ra in monocytes of HIV-1 infected patients with different course of disease progression. *AIDS Res Hum Retroviruses*, 2012;**28**: 693-701
26. Likanonsakul S., Rattanatham T., Feangvad S., Uttayamakul S., Prasithsirikul W., Srisopha S., Nitiyanontakij R., Tengtrakulcharoen P., Tarkowski M., Riva A., Nakayama E. E., Shioda T. Polymorphisms in Fas Gene Is Associated with HIV-Related Lipodystrophy in Thai Patients. *AIDS Res Hum Retroviruses*, 2013;**29**:142-150.
27. Ferraris, L., Vigano O., Peri A., Tarkowski M., Milani G., Bonora S., Adorni F., Gervasoni C., Clementi E., Di Perri G., Galli M., Riva A. Switching to unboosted atazanavir reduces bilirubin and triglycerides without compromising treatment efficacy in UGT1A1\*28 polymorphism carriers. *J Antimicrob Chemother*; 2012; **67**: 2236-42.
28. Malnati MS, Ugolotti E, Monti MC, Battista D, Vanni I, Bordo D, Sironi F, Larghero P, Marco ED, Biswas P, Poli G, Vicenzi E, Riva A, Tarkowski M, Tambussi G, Nozza S, Tripodi G, Marras F, De Maria A, Pistorio A, Biassoni R. Activating Killer Immunoglobulin Receptors and HLA-C: a successful combination providing HIV-1 control. *Sci Rep.* 2017 Feb 13;**7**:42470. doi: 10.1038/srep42470. PMID: 28211903; PMCID: PMC5304173.
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30. Piatek P, Namiecinska M, Domowicz M, Przygodzka P, Wieczorek M, Michlewska S, Lewkowicz N, Tarkowski M, Lewkowicz P. MS CD49d<sup>+</sup>CD154<sup>+</sup> Lymphocytes Reprogram Oligodendrocytes into Immune Reactive Cells Affecting CNS Regeneration. *Cells*. 2019 Nov 25;8(12):1508. doi: 10.3390/cells8121508. PMID: 31775315; PMCID: PMC6953114.
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## Atti di convegni

## ALTRE INFORMAZIONI

Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del DPR n. 445/2000.

Il presente curriculum, non contiene dati sensibili e dati giudiziari di cui all'art. 4, comma 1, lettere d) ed e) del D.Lgs. 30.6.2003 n. 196.

Luogo e data: Milano, 10.09.2024 \_\_\_\_\_