DELIBERAZIONE N. 9

CONSIGLIO N. 1 DI DATA 28.01.2021

CONSIGLIO DI AMMINISTRAZIONE

estratto del processo verbale

OGGETTO: PARTECIPAZIONE DI AREA SCIENCE PARK COME *PARTNER ORGANISATION* AL PROGETTO MSCA-ITN TRIM-NET.

		PRESENTI ALLA VOTAZIONE	ASSENTI ALLA VOTAZIONE
	Aventi diritto di voto:		
1.	Sergio Paoletti	X	
2.	Sabrina Strolego	X	
3.	Alberto Aloisio	X	
	Senza diritto di voto:		
	REVISORI DEI CONTI		
1.	Nazzareno Cerini	X	
2.	Antonio Musella	X	
3.	Rodolfo Fiocchi	X	
	CORTE DEI CONTI		
1.	Tiziano Tessaro	X	
	DIRETTORE GENERALE		
1.	Stefano Casaleggi	X	

SEGRETARIO: Diego Arocchi

In ordine all'oggetto sopra indicato il Consiglio di Amministrazione ha discusso e deliberato quanto di seguito riportato:

IL CONSIGLIO DI AMMINISTRAZIONE

CONSIDERATO che Area Science Park, a norma dell'art. 3, comma 1, lett. h, del vigente Statuto "contribuisce allo sviluppo del sistema dell'innovazione anche in collaborazione con Università, enti pubblici di ricerca e altri soggetti pubblici e privati, in particolare del mondo imprenditoriale";

DATO ATTO che Area Science Park ha recentemente completato la transizione nel proprio Laboratorio di Genomica ed Epigenomica (di seguito e per brevità LAGE) di tutte le risorse e attività inerenti a C.B.M. S.c. a r.l., comprese le collaborazioni e la partecipazione a progetti europei;

VISTO che:

- il progetto "TRIM-NET: ATraining network in drug discovery targeting TRIM ubiquitin ligases in disease", finanziato dalla Commissione Europea nell'ambito delle azioni *Marie Skłodowska-Curie Innovative Training Network* (MSCA-ITN) del programma Horizon 2020, coinvolge nove istituzioni beneficiarie fra Università, Enti di Ricerca e ospedali a carattere scientifico provenienti da sei differenti nazioni europee (Italia, Regno Unito, Francia, Germania, Spagna e Olanda) e si avvale anche della partecipazione di cinque organizzazioni non accademiche di quattro nazioni europee, tra cui C.B.M. S.c. a r.l.;
- il progetto TRIM-NET collega diverse competenze (genetica, biochimica, biologia molecolare e cellulare, biologia chimica e strutturale) provenienti da tutta Europa per studiare l'attività e la regolazione delle proteine della famiglia TRIM al fine di sviluppare nuove terapie per il trattamento di molteplici tipi di malattie incluso cancro, malattie neuromuscolari, malattie genetiche rare e malattie neurodegenerative;
- il progetto TRIM-NET, coordinato dalla professoressa Germana Meroni del Dipartimento di Scienze della Vita dell'Università degli Studi di Trieste, si è avviato a gennaio 2019 e ha una durata di quattro anni;
- la coordinatrice del progetto TRIM-NET, a seguito della transizione sopra descritta, ha richiesto ad Area Science Park di assumere il ruolo di C.B.M. S.c. a r.l., in qualità di *Partner Organisation,* all'interno del progetto stesso;
- l'attuale Responsabile del LAGE, Danilo Licastro, precedentemente a capo della facility di genomica di C.B.M., ha assunto il ruolo di Referente scientifico e responsabile delle attività all'interno del Progetto TRIM-NET;

DATO ATTO che la partecipazione al progetto TRIM-NET si inserisce perfettamente nelle attività del LAGE e permetterà di stabilire relazioni e contatti con una rete europea di partner di settore;

PRESA VISIONE delle attività (DOW) del progetto TRIM-NET, allegato alla presente deliberazione per farne parte integrante e sostanziale, e ritenuto che i *task* a carico di Area Science Park relativi ad attività di *training* e ospitalità di giovani ricercatori possano essere svolti dalle competenze e risorse del LAGE;

DATO ATTO che la partecipazione al progetto MSCA-ITN TRIM-NET non comporterà alcun impegno economici per l'Ente;

RAVVISATA pertanto l'opportunità di aderire al progetto MSCA-ITN TRIM-NET;

SU PROPOSTA del Direttore Generale;

CON VOTI unanimi;

DELIBERA

- di aderire in qualità di *Partner Organisation* al progetto MSCA-ITN TRIM-NET;
- di dare mandato al Responsabile del LAGE, Danilo Licastro, a rappresentare l'Ente all'interno del consorzio del progetto medesimo;
- di dare atto che quanto deliberato attiene alle attività e alle finalità istituzionali dell'Ente.

IL SEGRETARIO

Diego Arocchi

Firmato digitalmente da
DIEGO AROCCHI

IL PRESIDENTE

Sergio Paoletti

Firmato digitalmente da

SERGIO PAOLETTI

CN = PAOLETTI SERGIO
C = IT

Ref. Ares(2018)4056244 - 01/08/2018

EUROPEAN COMMISSION
Research Executive Agency
Mar e Sk odowska-Cur e Innovat ve Tra n ng Networks



ANNEX 1 (part A)

European Training Networks

NUMBER — 813599 — TRIM-NET

1.1. The project summary

Project Number [1]	813599	Project Acronym [2]	TRIM-NET

One form per project

General information	
Project title [3]	Training network in drug discovery targeting TRIM Ubiquitin ligases in disease
Starting date [4]	01/01/2019
Duration in months [5]	48
Call (part) identifier [6]	H2020-MSCA-ITN-2018
Topic	MSCA-ITN-2018 Innovative Training Networks
Fixed EC Keywords	Drug discovery and design (formulation and delivery), Cancer and its biological basis, Biological chemistry, biochemistry, Neurological disorders (e.g. Alzheimer's disease, Huntington's disease, Parkinson's disease), Protein synthesis, folding, modification and turnover
Free keywords	Ubiquitination, E3 ligases, drug discovery, Peptide chemistry, Biomaterials synthesis

Abstract [7]

The TRIM-NET innovative training programme will provide Early-Stage Researchers with the skills to identify novel therapeutic targets and develop the strategies to validate them in preclinical studies. Integrating complementary expertise and multidisciplinary approaches TRIM-NET aims to address this goal, focussing on the Tripartite motif (TRIM) family of Ubiquitin E3 ligases, which plays an important role in many physiological processes. The importance of the role of TRIM proteins in these processes is underpinned by their recognised involvement in many disease processes such as cancer, neurodegeneration and rare genetic diseases. As such, they are excellent targets for therapeutic manipulation. The TRIM-NET consortium created a critical mass with complementary and interdisciplinary expertise, from Life Science to Chemistry, around this family of proteins to identify and exploit common targeting strategies for translational applications. The consortium is designed to train a cohort of researchers in skills and expertise essential for biomedical research in the era of personalised medicine, focussing on determining how: i) TRIM proteins contribute to disease; ii) to develop strategies to modulate TRIM proteins activity; iii) to design high throughput screening assays for drug discovery. The training programme comprises 7 highly integrated work packages: 4 scientific and 3 dedicated to training, dissemination and management. The proposal consists of 12 individual research projects that will form the basis of the research training aspects for the ESR recruited to the programme. As the scientific work packages are highly integrated, recruited ESRs will avail of techniques and training opportunities, including secondments, across the work packages. Through a unique international partnership between academic and non-academic partners the TRIM-NET training programme will provide ESRs with skills that are essential for future biomedical research in industry and academia.

Ref. Ares(2018)4056244 - 01/08/2018



Marie Skłodowska-Curie Actions (MSCA)
Innovative Training Networks (ITN)
H2020-MSCA-ITN-2018

Annex 1 to the Grant Agreement (Description of the Action) Part B 813599 – TRIM-NET

LIST OF PARTICIPATING ORGANISATIONS

Consortium Member	Legal Entity Short Name	Academic (tick)	Non-academic (tick)	Awards Doctoral Degrees (tick)	Country	Dept./ Division / Laboratory	Scientist-in-Charge	Role of Partner Organisation
Beneficiaries								
B1 – University of Trieste	UNITS	X		X	IT	Dept. of Life Sciences/Molecular Genetics lab	Prof. Germana Meroni	
B2 – Centre National de la Recherche Scientifique	CNRS	X			FR	Institute of Molecular Genetics of Montpellier (IGMM, UMR 5535)	Dr. Solange Desagher	
B3 – University of Dundee	UNIVDUN	X		X	UK	Centre for Gene Regulation and Expression (GRE)	Prof. Ronald Hay	
B4 – Karlsruher Institut fuer Technologie	KIT	X		X	D	Institut fuer Toxikologie und Genetik	Dr. Christine Blattner	
B5 - Academisch Ziekenhuis Leiden	LUMC	X		X	NL	Leiden University Medical Center/Dept. of Chemical Immunology	Prof. Huib Ovaa	
B6 - Institut National de la Recherche Agronomique	INRA	X		X	FR	AlimH, Clermont Ferrand	Dr. Daniel Taillandier	
B7 – Fondazione Casa Sollievo della Sofferenza	CSS-IRCCS	X		X	IT	Medical Genetics Unit	Dr. Giuseppe Merla	
B8 – Agencia Estatal Consejo Superior de Investigaciones Cientificas	CSIC	X			ES	Nutrient Signaling Unit, Institute of Biomedicine, Valencia	Prof. Pascual Sanz	
B9 - Nederlands Kanker Instituut-Antoni van Leeuwenhoek Ziekenhuis	NKIAVL	X		X	NL	Division of Oncogenomics	Dr. Wilbert Zwart	
Partner Organisations								
PO1 - PharmaTrain Federation	PMF	X		N/A	B	N/A	Prof. Heinrich Klech	Training; Mentoring; Advice.
PO2 - Ubiquigent Ltd	UG		X	N/A	UK	N/A	Dr. Jason Brown	Training; Mentoring; Advice/Reagents.
PO3 - Consorzio per il Centro di Biomedicina Molecolare S.c.r.l.	CBM		X	N/A	IT	Genomics and Bioinformatics facility	Dr. Danilo Licastro	Training; Mentoring; Hosting ESR in secondment.
PO4 - LABCYTE ltd.	LABCYTE		X	N/A	UK	Field applications	Dr. Carl Jarman	Mentoring; Advice.
PO5 - OcellO B.V.	OCELLO		X	N/A	NL	N/A	Dr. Leo Price	Training; Mentoring; Advice/Reagents Hosting ESR in secondment.
PO6 – Universitat de	UV	X		X	ES	N/A	Dr. Mercedes	PhD enrolment of the CSIC

València							Costell Rosselló	recruited ESR.
PO7 – Université de Montpellier	UM	X		X	FR	N/A	Dr. Solange Desagher	PhD enrolment of the CNRS recruited ESR.

1. Excellence

1.1 Quality, innovative aspects and credibility of the research programme

- Introduction, objectives and overview of the research programme

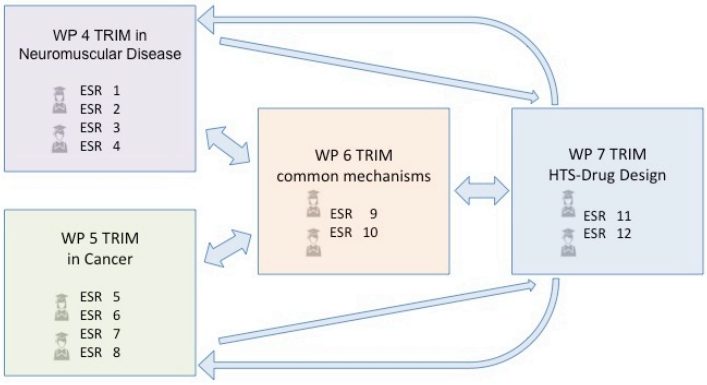
Introduction. Ubiquitination is a post-translational modification process that controls the degradation, signalling and activity of many, if not all, cellular proteins. Ubiquitination needs to be finely tuned and is catalysed and controlled by several players: ubiquitin; the E1 ubiquitin activating enzyme, the E2 ubiquitin conjugating enzymes, the E3 ubiquitin ligases, which compose the ubiquitination cascade; the deubiquitination enzymes that reverse the modification; the proteasome that degrades ubiquitinated proteins and the proteins that recognize the ubiquitination code and translate the signal[1]. Analogous biochemical cascades are involved in ubiquitin-like modification. Given the importance of ubiquitination in several fundamental biological pathways, this process has become with no surprise the target of search and development of pharmacological drugs. One of the first drugs to reach the clinic for cancer treatment was *bortezomib,* an inhibitor of ubiquitin-mediated proteasomal degradation. The efficacy of this drug supports the validity of targeting this system but at the same time highlights the need of therapies that target more specific ubiquitination steps to limit undesirable side effects.
Tripartite Motif (TRIM) proteins participate in ubiquitin and ubiquitin-like modifications and form a large family of over 70 RING-type ubiquitin E3 ligases[2]. Behaving as E3 ubiquitin ligases, TRIM proteins are responsible for the specific recognition of the substrate. They recruit the ubiquitin-charged E2 enzyme via the RING domain allowing proper transfer of the ubiquitin moiety to the target that needs to be post-translationally modified, thus determining its fate. Besides the N-terminal RING domain, the TRIM proteins display one or two B-box domain(s) of still unknown role and a Coiled-coil region responsible for their homo- and hetero-interactions. The combination of these 3 domains is the hallmark of this class of proteins. TRIM proteins are involved in many diseases and clinically relevant processes emphasizing the need for deep knowledge of TRIMs' mechanism of action in order to design and develop targeting strategies[3]. Indeed, some TRIM proteins act as oncogenes or tumour suppressors, often in a context-dependent manner. TRIM proteins are also implicated in progressive neurodegenerative disorders, such as Parkinson's disease, as well as in neuromuscular diseases. Germline mutations in several TRIM genes cause genetic disorders, which range from developmental to teenage- and adult-onset diseases, and members of the TRIM family have emerged as key positive and negative regulators of innate immune response.
The ultimate goal of the present proposal is the identification of novel therapeutic strategies to target specific ubiquitination steps mediated by TRIM family members that are involved in common and rare pathologies thus heavily impacting on public health.

The TRIM-NET consortium is designed to bring together a multidisciplinary team that connects different expertise (genetics, biochemistry, molecular and cell biology, chemical biology, structural biology) across Europe to address TRIM proteins activity and to develop novel therapeutics for the treatment of different types of cancer, rare genetics neuromuscular disorders, and neurodegenerative diseases. TRIM-NET is structured around 9 Beneficiaries (Bs), from 6 European countries and representing 8 Research-Academic Institutions and a Research-Hospital, which will host 12 Early Stage Researchers (ESRs). TRIM-NET includes 3 academic and 4 non-academic Partner Organisations (POs) that will provide training, advice, technologies, and reagents to the network. The consortium is composed of both experienced and younger group leaders and three of the beneficiary main scientists, the coordinator included, are females. The Consortium is composed of scientists with longstanding experience in the study of TRIM E3 ligases and ubiquitination processes, at the forefront of ubiquitination research as evidenced by the publications in high profile journals and who regularly participate/lead national, EU and international projects, ITN programme included (e.g. UPStream, UbiCODE). The ESRs will be thus trained in the groups of world-renowned scientists in the field and within a network with solid experience in research training and mentoring. Each recruited ESR will be enrolled in a Doctoral degree and will be in charge of a dedicated Individual Research Project (IRP) based on robust preliminary data produced in the host lab and designed to be feasible in the proposed time-frame (Table 1.2a and 3.1d). The IRPs are the heart of the present research project as they contribute to the accomplishment of the specific aims of this network proposal. The TRIM-NET training programme is structured in 7 highly integrated work packages (WPs): 4 scientific and 3 dedicated to training, dissemination, and management of the programme.

Objectives and Overview of the research programme. The association of TRIM family members with disease makes them very attractive targets for therapeutic intervention. This is particularly the case for unmet needs

[1] Komander D, Rape M. Annu Rev Biochem. (2012) 81:203-29
[2] Reymond A*, **Meroni G***, et al., The EMBO Journal (2001) 20, 2140-2151
[3] Hatakeyama S. Trends Biochem Sci. (2017) 42(4):297-311

surrounding rare genetic disorders and the many common forms of cancer and neurodegenerative disorders, where treatment options are limited and not sub-type specific. The shared domain structure of the TRIM proteins and their role in ubiquitin and ubiquitin-like target modification necessitate the establishment of a scientific critical mass with complementary expertise around this family of proteins to identify and exploit common targeting strategies. These needs are fully met with the creation of the TRIM-NET consortium. The research programme will focus on determining how TRIM proteins contribute to disease and how we can use this information to develop novel therapeutics. The specific objectives of the research programme are to:



i) define TRIM patho-physiological functions in different disease areas;

ii) develop strategies to modulate TRIM proteins activity;

iii) develop high throughput screening (HTS) assays for TRIM activity;

iv) validate the novel therapeutic avenues in *in vitro* and *in vivo* disease models.

These objectives are interconnected and implemented through 4 WPs with the following rationale and aims:

- Several TRIM Ubiquitin E3 ligases are implicated in congenital or late-onset disorders, often though, they exert pleiotropic functions due to their multiple target specificity. It is thus crucial to define TRIM disease-specific mechanisms for the design of appropriate therapeutic strategies. ***WP4*** led by Solange Desagher (B2-IGMM-CNRS) aims at defining the pathogenetic role of selected TRIM members implicated in neurodegenerative and neuromuscular disorders and use these findings to envisage therapeutic strategies.
- ***WP5***, led by Giuseppe Merla (B7-CSS-IRCCS) aims at defining the pathogenetic role of selected TRIM family members in different types of cancers. Deregulation of E3 ligase proteasome-mediated stability of oncogenes and tumour suppressors plays an important role in onset and progression of many cancer types. TRIM proteins are no exception and several family members are implicated in a plethora of tumour types. WP5 will finally investigate how to use these findings for drug discovery.
- ***WP6***, led by Ronald Hay (B3-UNIVDUN), a world leader in ubiquitin and ubiquitin-like modification, aims at defining TRIM common mechanisms of action for the identification of shared and private screening and targeting strategies. TRIM proteins shared domain structure and their role in ubiquitin and ubiquitin-like target modification support this effort towards common targeting strategies.
- The goal of the research programme is to contribute to define appropriate targeting strategies for selected TRIM proteins. ***WP7***, led by Huib Ovaa (B5-LUMC), a renowned chemical biologist in the field of ubiquitin, aims at designing targeting strategies, peptide and/or small molecules, developing assays for high-throughput screening and performing compound library screens for TRIM proteins under study within the consortium.

The research goals above will form the basis of the research training programme for the ESRs recruited within this network. The quality of the research laboratories and facilities and the high level of complementarities on the ground provide an outstanding training base for the ESRs. They will carry on their own project but at the same time, through intense network-wide activities and secondments, be aware of the common goal and contribute to the complete stream from disease target to drug development initiatives with exposure to interdisciplinary and intersectorial environments. In essence, the TRIM-NET proposes a training programme to provide ESRs with the scientific, technical, transferable skills, integrating complementary expertise and multi-disciplinary approaches, to identify novel therapeutic targets in diseases that involve a unique family of proteins: the Tripartite Motif (TRIM) family. This training will result in excellent preparation for their PhD thesis and defence and for their future career in academia, industry or any other science-related environments.

- <u>Research methodology and approach</u>

The project brings together complementary expertise necessary to address the research objectives through the approaches and methodologies defined in the tasks below (Beneficiaries and ESRs involved are indicated).

WP4: *Assess individual TRIM E3 ligases as novel therapeutic targets in neuromuscular diseases*. The research within this WP will exploit *in vitro* and *in vivo* systems to investigate the pathogenetic mechanisms underlying the addressed neuromuscular conditions and to design/test modulators of TRIM function.

- *Task 1* (B2, Solange Desagher). Results of B2 group suggest that TRIM17 induces the expression of α-

Workshop 4: Big-data Analysis (3 days; PO3 – Danilo Licastro, CBM). Day 1 will cover basic statistics and experimental design; day 2, genomics big-data analyses; day 3, proteomics big-data analyses. The course will be structured with morning lectures and hands-on afternoon laboratories based on real drug discovery examples. The workshop will start from basic statistical knowledge covering study design, analysing sample problems through hypothesis testing approaches, analysis of variance, regression, and sample size calculations applied in the field of Genomics and Proteomics for Drug Discovery. Within this workshop B9, Wilbert Zwart, NKI-AVL, will organise a session dedicated to biomarker discovery in breast and prostate cancer. At the end of each day, ESRs knowledge improvement will be tested through on-line *R studio* tools.

On-line module 1: Drug development (2 hour session each week for 6 weeks; PO1 – Heinrich Klech, PharmaTrain). PharmaTrain will provide access to an on-line module on drug development offered by Kings College London. The course will give a broad overview of the concepts, strategies and research techniques used in drug design and development. Specifically, it will highlight key issues to be considered at the drug discovery & development stages, such as absorption, distribution, metabolism and excretion (ADME) properties. ESRs will be required to submit class work, complete on-line exercises and participate in on-line discussions.

Transferable skills training. The range of transferable skills offered by TRIM-NET will provide the basic skill-set ensuring that ESRs will be able to apply and further develop the learned skills to future employment, regardless of the career direction they will take. The specific focus of the TRIM-NET programme will be to train a generation of creative, entrepreneurial and innovative ESRs able to convert the knowledge they gain from primary research into ideas and technologies for commercialisation or development.

Workshop 5: Scientific writing and Communication (3 days; B2 – Solange Desagher, CNRS-IGMM). This workshop is project-based: students will work on their own existing data. Prior to attending, they will identify their target journal and bring guidelines for authors. Day 1, students will be guided step-by-step through the process of creating a research paper (developing a concept; expanding the outline; catching readers' attention; avoiding plagiarism). Revision techniques will help to improve the quality of their writing. On day 2, ESRs will learn about other forms of scientific communication (oral and poster presentations, writing for lay audiences, using the internet and smart devices). Each ESR will develop a short communiqué to fit a specific media form of their choice, which will be reviewed by their peers on day 3 providing essential feedback on clarity and effectiveness and an insight into the peer review process. Continued development and revision of the Research Article over the next months by ESR and supervisor will complete this module.

Workshop 6: Commercialisation and Entrepreneurship (PO1 - Heinrich Klech, PharmaTrain). *Part I* is a 3-day workshop dealing with development and management of biotechnology businesses, with a focus on commercialising discoveries and inventions. After the course, the ESRs will understand i) the development and management of biotechnology businesses; ii) financing at each stage of company development; iii) fundamental aspects of science-based companies (business plan, collaboration between large and small companies, corporate intelligence, role of boards). Regarding entrepreneurship and innovation, ESRs will gain an understanding in how discoveries and inventions are commercialized, and how to apply their understanding and knowledge of the basics of innovation and entrepreneurship in a broader context. As for drug target discovery, rare diseases have a strong potential in drug development, supported by typical commitments of stakeholders to work together towards unmet medical needs. The strengths of orphan approaches include shorter timelines to market, lower development costs and/or alternative business models and increased links with regulators from early stages. The final self-directed project (*Part II, Entrepreneurship*) involves each ESR developing a commercialisation strategy for the most promising target arising from their IRP. A five-minute elevator pitch presentation by each ESR of their innovation will be delivered at the 3rd TRIM-NET annual meeting. This will be adjudicated by a panel of academic and industrial representatives from the consortium, chaired by Prof. Klech, PharmaTrain, who has 20 years of experience in drug development.

Workshop 7: Career Development/Planning (2 days; B4 – Christine Blattner, KIT). This workshop will give ESRs a focussed look at academic, industry or alternative career options and the steps required. Day 1 will consist of talks from Industry, Academia, Scientific journalism; Patent Law; Project Management; Entrepreneurship; and fundraising; followed by an afternoon CV writing session, in which the need to tailor a CV according to job type will be emphasised; Day 2 will consist of tips on how to identify suitable grant funding; identifying a prospective employer and increasing your attractiveness to that employer; and finally interview techniques will be reviewed, followed by mock interviews for fictitious positions across areas that ESRs will choose.

ideally placed to give effective advice both scientifically and with respect to training. ***PO2 (Ubiquigent)*** is a research tools and drug discovery services company which supports academic and drug discovery researchers focused on the ubiquitin system. Within the network Ubiquigent will provide dedicated reagents and services and advise on the development of high throughput assays to screen for E2-TRIM interactions and developing reagents for TRIM-screening programmes. Ubiquigent will lead workshop 1 (Ubiquitin system targeted drug discovery). ***PO3 (CBM)*** is a non-profit research-intensive SME with public and private shareholders, which carries out research and high-throughput genomic services to private and public customers in the field of molecular biomedicine. CBM will lead workshop 4 (Big-data Analysis) and will also host ESRs on secondment from B4 and B7, providing exposure to an example of public-private environment linking together scientific institutes and private companies under a governmental support. CBM will provide access to high-throughput genomic platforms and an insight into the setup behind service provision. CBM is also committed to outreach and science communication by organizing open days and citizens' awareness initiatives. ***PO4 (Labcyte)*** is a biotechnology tools company providing liquid handling products. Labcyte technology is used worldwide throughout the pharmaceutical industry as well as academic institutions. Echo users work across a wide spectrum of scientific research, including drug discovery, genomics, proteomics, diagnostics, and personalized medicine. PO4 will provide the ESRs with training on the use of acoustic liquid handling and applications thereof during organized site visits in industrial settings. Further, PO4 provide input mentoring students in their career development from the perspective of a biotechnology company. ***PO5 (Ocello)*** is a contract research organization, spun off from Leiden University. OcellO provides advanced drug testing services to the drug discovery industry. PO5 will assist ESRs during the on-line module 2 (IP Rights and Patenting), will act as mentor in supervision teams, and will host a ESRs in secondment from B5 and B9 to support their high-throughput screening designs.

1.3 Quality of the supervision

- Qualifications and supervision experience of supervisors

Each ESR will have a ***supervision team*** composed of the direct *host supervisor*, a co-supervisor and an advisor to ensure valued and extensive supervision across the duration of the project (Table below). The team will monitor and discuss ESR progress and achievements against the PCPD (section 1.2). The individual supervisors each have the time, knowledge, experience and commitment to offer the ESR the appropriate level of support and mentorship throughout their training program. When feasible and meaningful, the *co-supervisor* is in line with the planned secondment(s), which aim to place an ESR in a different discipline environment. The co-supervisor will therefore have a keen interest in the IRP and will act as direct supervisor during the secondment period having already established a strong relationship with the ESR. The co-supervisor will be in regular contact with the ESR to give valuable feedback on scientific progress from an alternative perspective as well as access to additional training. When feasible, the supervisor/co-supervisor pairing will also match more experienced scientists, with respect to number of graduated students, and junior group leaders. This mixture will provide a very useful platform for the trainees within the network, as it provides mentoring at multiple levels allowing proper discussion of career development issues. The supervision team includes also an *advisor*. The advisor will be in regular contact with the ESR to provide further mentoring and career guidance. To assure intersectorial exposure, the advisor is assigned taking advantage of the TRIM-NET POs' involvement.
At each annual meetings of the network, Collective Supervision elements will be incorporated where the teams will share and discuss supervision best practices taking into account the feedback from the ESRs who will be asked to fill in questionnaires on how they rate the TRIM-ETN in terms of the quality of courses provided, quality and access to mentorship, research project evaluation process, workshops, career development, and project progression. During these annual gatherings both supervision teams and ESRs will benefit from the experience of Prof. Hay (B3) in supervising successful PhD students. Further, Prof. Hay has participated/is participating in MSCA ITNs and has full experience with the specific needs of this instrument.

	Supervisor	Co-supervisor	Advisor		Supervisor	Co-supervisor	Advisor
ESR1	B2 Desagher	B1 Meroni	PO2 Ubiquigent	**ESR7**	B9 Zwart	B2 Desagher	PO1 PharmaTrain
ESR2	B8 Sanz	B3 Hay	PO1 PharmaTrain	**ESR8**	B7 Merla	B9 Zwart	PO3 CBM
ESR3	B1 Meroni	B6 Taillandier	PO2 Ubiquigent	**ESR9**	B3 Hay	B9 Zwart	PO5 Ocello
ESR4	B6 Taillandier	B5 Ovaa	PO1 PharmaTrain	**ESR10**	B1 Meroni	B2 Desagher	PO5 Ocello
ESR5	B4 Blattner	B7 Merla	PO3 CBM	**ESR11**	B5 Ovaa	B1 Meroni	PO2 Ubiquigent
ESR6	B9 Zwart	B5 Ovaa	PO4 Labcyte	**ESR12**	B5 Ovaa	B4 Blattner	PO4 Labcyte

Beneficiaries training track record. Each of the TRIM-NET partners is a leader in her/his field with a proven track record in team management and supervision and this will ensure quality of the training programme. The

combines different disciplines and sectors, warrants that TRIM-NET ESRs will have *Exposure to Industry and other relevant employment sectors* and *Interdisciplinary Research Options* through network-wide activities and secondments. The programme combines experimental training, workshops, and lectures directly related to the TRIM-NET topic and also *Transferable skills training* such as scientific writing, commercialization and patenting. Fourteen partner institutions will contribute to the strength of this network in the field. All participants have agreed on the training programme, each of them offering specific expertise and workshops and *Quality Assurance* is provided by careful monitoring the research progress and supporting individual ESR development. In this way TRIM-NET contributes to the development of multi-disciplinary research training in Europe and in doing so, deliver on the EU policy specifically concerning the objectives of the Marie Skłodowska-Curie actions in supporting the career development and training of researchers with a focus on innovation skills and implementing best practices in doctoral education, which will be shared also with the local graduate schools.
It is anticipated that national and European funding agencies will contribute to sustainability and continued development of the TRIM-NET training programme, resulting in a long-term programme training innovative young researchers for careers in academia or industry. During the course of the 48-month-programme links with other funded MSCA ITN actions will be established, in particular those stemming from the networking activity of the COST BM1307 Action as ours (e.g. TRAIN, TRAIN-ERS, UbiCODE) and sharing with TRIM-NET the same translational nature in the field of proteostasis. This cannot but reinforce and self-maintain a structured training programme for young researchers and the research goals behind. Indeed, the genuine interest in the proposed research guarantees the commitment to follow up the scientific goals beyond the end of the action and to keep supporting the trained ESRs after their PhD defence and at the beginning of their future careers. The extensive collaboration and exchange of materials and personnel between the TRIM-NET partners will have a lasting effect on the partnering institutions – increasing awareness of research at an EU level, providing contacts to other research labs in Europe, enhancing the technologies and technical expertise at the partner institution as the knowledge gained from experiences/exchanges in other labs is brought back to the host institution. It will also ensure that the host lab is recognised as a centre of excellence via being part of this highly productive and cohesive network – in essence TRIM-NET will operate as a virtual Centre of Excellence.

Strengthening European innovation capacity. Implementation of TRIM-NET will directly address current ERA initiatives aimed at strengthening links between universities and industry. The very nature of this consortium – discovery and validation of targets – will ensure a productive pipeline of preclinical targets that will guarantee continued industrial interest and collaboration and potentially the establishment of SMEs around the most promising targets. At the end of the present project TRIM-NET will graduate 12 young scientists well trained in interdisciplinary way of thinking and in the latest technological methodologies in the field of biomedicine who will trigger an anticipated multiplier effect strengthening European innovation capacity in different sectors. As post-doc in other research labs, within and outside the TRIM-ETN institutions, they will convey their acquired skills and way of doing and thinking research in the supervision of master and PhD students and in sharing the added value of European and, in general, international collaborations. Within industry, they will bring the research lab slant, the network established with top scientists and their group components, the network established with peers as well as specific and highly qualified technical preparation. In this way the academic-industry links will be fostered building up further training initiatives and funding opportunities. In academic contexts they will exploit teaching and tutoring skills contributing to strengthen local educational activities included PhD programmes. Via this virtuous cycle, a major positive effect on the European Research Area (ERA) innovation capacity is anticipated in the long term.

Meaningful contribution of the non-academic sector to the doctoral/research training. All partners, beneficiaries and partner organisations, are members of the Supervisory Board (SB) and are thus responsible for the coordination of the training programme. The academic and non-academic sector partner organisations (PO1-PO5) have defined the skills requirements for their sector and were involved in the design of the training programme and will actively participate in it. In addition, 2 SMEs (PO3, CBM and PO5, Ocello) will host seconding ESRs. As members of the Supervisory Board, all non-academic partners will have role in oversight of research and training across the network. Further, the POs managing scientists/managing director will serve as non-academic sector advisor within the Supervision Team established for each recruited ESR providing a different standpoint on the project, its approaches and accomplishments. PharmaTrain for example will provide insight and oversight regarding best practice in both training and supervision. This active participation will enable us to set up active public-private collaborations that we hope will be extended into the future.

cbm
connecting bio-research and industry

Prof.Germana Meroni
Department of Life Sciences
University of Trieste
Via Giorgieri 5
34127 Trieste, Italy

Trieste, December 18, 2017

Dear Prof. Meroni,

It is with great pleasure that, on behalf of the Consorzio per il Centro di Biomedicina Molecolare – Cluster in Biomedicine (CBM), I hereby confirm our commitment to being a Partner Organisation in the Innovative Training Network TRIM-NET. We consider the training of a new cohort of researchers in the area of Drug Discovery of paramount importance and we welcome the opportunity to participate in this project bringing the experience gained in high-throughput genomics and bioinformatics and in outreach and science communication.

CBM is a non-profit research-intensive SME with public and private shareholders, which carries out research and services to private and public customers in the field of molecular biomedicine. CBM is an institution that brings together scientific institutes and private companies under a governmental support being the coordinating body of the activities of the Regional (Friuli Venezia Giulia) Technological District of Molecular Biomedicine to promote tech-transfer and support in the launch of new entrepreneurial initiatives. CBM is based in the Scientific and Technological AREA Science Park of Trieste, Italy (its majority shareholder). CBM will provide to the TRIM-NET PhD students the exposure to a public-private environment linking together scientific institutes and private companies under a governmental support.

With this letter of commitment, I agree and ensure that the Head of the Genomic Facility, Dr. Danilo Licastro, will:

i) develop and deliver workshop 4 (*Big-data Analysis*) covering basic statistics, experimental design and genomics/proteomics big-data analyses;

ii) host an Early Stage Researcher recruited by Christine Blattner (KIT – Germany) on secondment, providing expertise for genomics data analysis.

Moreover, CBM will provide access to high-throughput genomic platforms and will be committed to outreach and science communication by organizing open days and citizens' awareness initiatives.

Yours sincerely,

Prof. Laura Chies
President of CBM

CBM scrl

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