

Simona Arena



Researcher

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Education and Professional Experience

2013 up to date: Researcher

2010-2013: Post-Doc Research Fellows at ISPAAM-CNR, Napoli.

2005-2010: PhD in Medical Biotechnologies, Biochemistry and Microbial Sciences, University of Siena, Italy.

2003-2005: Research Fellows at ISPAAM-CNR, Napoli.

2003: Master's Degree in Food Science and Technology, University of Naples "Federico II", Italy.

Keywords

Proteomics, Mass Spectrometry, Liquid Chromatography, Post-translational modifications

Selected publications (max 20)

1. Benej M, Svastova E, Banova R, Kopacek J, Gibadulinova A, Kery M, **Arena S**, Scaloni A, Vitale M, Zambrano N, Papandreou I, Denko NC, Pastorekova S. CA IX Stabilizes Intracellular pH to Maintain Metabolic Reprogramming and Proliferation in Hypoxia. *Front Oncol.* 2020 Sep 2;10:1462. doi: 10.3389/fonc.2020.01462.
2. Tartaglia M, **Arena S**, Scaloni A, Marra M, Rocco M. Biochar Administration to San Marzano Tomato Plants Cultivated Under Low-Input Farming Increases Growth, Fruit Yield, and Affects Gene Expression. *Front Plant Sci.* 2020 Aug 27;11:1281. doi: 10.3389/fpls.2020.01281.
3. Aquilano K, Sciarretta F, Turchi R, Li BH, Rosina M, Ceci V, Guidobaldi G, **Arena S**, D'Ambrosio C, Audano M, Salvatori I, Colella B, Faraonio R, Panebianco C, Paziienza V, Caruso D, Mitro N, Di Bartolomeo S, Scaloni A, Li JY, Lettieri-Barbato D. Low-protein/high-carbohydrate diet induces AMPK-dependent canonical and non-canonical thermogenesis in subcutaneous adipose tissue. *Redox Biol.* 2020 Sep;36:101633. doi: 10.1016/j.redox.2020.101633. Epub 2020 Jul 9.
4. Lirussi L, Antoniali G, Scognamiglio PL, Marasco D, Dalla E, D'Ambrosio C, **Arena S**, Scaloni A, Tell G. Cleavage of the APE1 N-Terminal Domain in Acute Myeloid Leukemia Cells Is Associated with Proteasomal Activity. *Biomolecules.* 2020 Mar 31;10(4):531. doi: 10.3390/biom10040531.
5. **Arena S**, Renzone G, Scaloni A. A multi-approach peptidomic analysis of hen egg white reveals novel putative bioactive molecules. *J Proteomics.* 2020 Mar 20;215:103646. doi: 10.1016/j.jprot.2020.103646.
6. Visconti S, D'Ambrosio C, Fiorillo A, **Arena S**, Muzi C, Zottini M, Aducci P, Marra M, Scaloni A, Camoni L. Overexpression of 14-3-3 proteins enhances cold tolerance and increases levels of stress-responsive proteins of *Arabidopsis* plants. *Plant Sci.* 2019 Dec;289:110215. doi: 10.1016/j.plantsci.2019.110215.
7. Vita F, Giuntoli B, **Arena S**, Quaranta F, Bertolini E, Lucarotti V, Guglielminetti L, Alessio M, Scaloni A, Alpi A. Effects of different nitrogen fertilizers on two wheat cultivars: An integrated approach. *Plant Direct.* 2018 Oct 22;2(10):e00089. doi: 10.1002/pld3.89.
8. Rocco M, Tartaglia M, Izzo FP, Varricchio E, **Arena S**, Scaloni A, Marra M.

Comparative proteomic analysis of durum wheat shoots from modern and ancient cultivars. *Plant Physiol Biochem.* 2019 Feb;135:253-262. doi: 10.1016/j.plaphy.2018.12.010.

9. **Arena S**, Scaloni A. An Extensive Description of the Peptidomic Repertoire of the Hen Egg Yolk Plasma. *J Agric Food Chem.* 2018 Mar 28;66(12):3239-3255. doi: 10.1021/acs.jafc.8b01183.
10. Zhu J, **Arena S**, Spinelli S, Liu D, Zhang G, Wei R, Cambillau C, Scaloni A, Wang G, Pelosi P. Reverse chemical ecology: Olfactory proteins from the giant panda and their interactions with putative pheromones and bamboo volatiles. *Proc Natl Acad Sci U S A.* 2017 Nov 14;114(46):E9802-E9810. doi: 10.1073/pnas.1711437114.
11. **Arena S**, D'Ambrosio C, Vitale M, Mazzeo F, Mamone G, Di Stasio L, Maccaferri M, Curci PL, Sonnante G, Zambrano N, Scaloni A. Differential representation of albumins and globulins during grain development in durum wheat and its possible functional consequences. *J Proteomics.* 2017 Jun 6;162:86-98. doi: 10.1016/j.jprot.2017.05.004.
12. Mazzeo MF, Di Stasio L, D'Ambrosio C, **Arena S**, Scaloni A, Corneti S, Ceriotti A, Tuberosa R, Siciliano RA, Picariello G, Mamone G. Identification of Early Represented Gluten Proteins during Durum Wheat Grain Development. *J Agric Food Chem.* 2017 Apr 19;65(15):3242-3250. doi: 10.1021/acs.jafc.7b00571.
13. Tamburino R, Vitale M, Ruggiero A, Sassi M, Sannino L, **Arena S**, Costa A, Batelli G, Zambrano N, Scaloni A, Grillo S, Scotti N. Chloroplast proteome response to drought stress and recovery in tomato (*Solanum lycopersicum* L.). *BMC Plant Biol.* 2017 Feb 10;17(1):40. doi: 10.1186/s12870-017-0971-0.
14. **Arena S**, Renzone G, D'Ambrosio C, Salzano AM, Scaloni A. Dairy products and the Maillard reaction: A promising future for extensive food characterization by integrated proteomics studies. *Food Chem.* 2017 Mar 15;219:477-489. doi: 10.1016/j.foodchem.2016.09.165.
15. **Arena S**, Salzano AM, Scaloni A. Identification of protein markers for the occurrence of defrosted material in milk through a MALDI-TOF-MS profiling approach. *J Proteomics.* 2016 Sep 16;147:56-65. doi: 10.1016/j.jprot.2016.02.016.
16. Gallo G, Renzone G, Palazzotto E, Monciardini P, **Arena S**, Faddetta T, Giardina A, Alduina R, Weber T, Sangiorgi F, Russo A, Spinelli G, Sosio M, Scaloni A, Puglia AM. Elucidating the molecular physiology of lantibiotic

NAI-107 production in *Microbispora* ATCC-PTA-5024. *BMC Genomics*. 2016 Jan 12;17:42. doi: 10.1186/s12864-016-2369-z.

17. Sassi M, **Arena S**, Scaloni A. MALDI-TOF-MS Platform for Integrated Proteomic and Peptidomic Profiling of Milk Samples Allows Rapid Detection of Food Adulterations. *J Agric Food Chem*. 2015 Jul 15;63(27):6157-71. doi: 10.1021/acs.jafc.5b02384. Jul 2. Erratum in: *J Agric Food Chem*. 2015 Aug 12;63(31):7093.
18. Renzone G, **Arena S**, Scaloni A. Proteomic characterization of intermediate and advanced glycation end-products in commercial milk samples. *J Proteomics*. 2015 Mar 18;117:12-23. doi: 10.1016/j.jprot.2014.12.021.
19. Guarino C, Conte B, Spada V, **Arena S**, Sciarrillo R, Scaloni A. Proteomic analysis of eucalyptus leaves unveils putative mechanisms involved in the plant response to a real condition of soil contamination by multiple heavy metals in the presence or absence of mycorrhizal/rhizobacterial additives. *Environ Sci Technol*. 2014 Oct 7;48(19):11487-96. doi: 10.1021/es502070m.
20. Vitale A, Rocco M, **Arena S**, Giuffrida F, Cassaniti C, Scaloni A, Lomaglio T, Guarnaccia V, Polizzi G, Marra M, Leonardi C. Tomato susceptibility to *Fusarium* crown and root rot: effect of grafting combination and proteomic analysis of tolerance expression in the rootstock. *Plant Physiol Biochem*. 2014 Oct;83:207-16. doi: 10.1016/j.plaphy.2014.08.006.