

#### **PERSONAL INFORMATION**

Name Enrico De Smaele  
 Address -omissis-  
 Nationality Italian

#### **WORK EXPERIENCE**

- Dates (from - to) **2021 - present**  
 Name and address of the employer Department of Experimental Medicine, La Sapienza" University of Rome, Italy;  
 Type of business or sector Education/scientific Research  
**Full Professor of General Pathology, MED/04, SC 06/A2**
- Dates (from - to) **2012- Present**  
 Name and address of the employer *University of Rome La Sapienza, Department of Experimental Medicine*  
 Type of business or sector Scientific Research  
 Occupation or position held P.I. of the Laboratory of Experimental Oncology
- Dates (from - to) **2020- Present**  
 Name and address of the employer *University of Rome La Sapienza, Department of Experimental Medicine*  
 Type of business or sector Scientific Research  
 Occupation or position held Member of the Executive Committee of the Research and Services Centre for Preclinical Experimentation and Animal Welfare (SPBA), Sapienza University of Rome
- Dates (from - to) **2014- Present**  
 Name and address of the employer *University of Rome La Sapienza, Department of Experimental Medicine*  
 Type of business or sector Scientific Research  
 Occupation or position held Member (from 2014) and Co-responsible (from 2016) for the Animal Welfare Body (OPBA) for the animal facility of the Departments of Experimental Medicine and Molecular Medicine "La Sapienza" University of Rome
- Dates (from - to) **2012- 2021**  
 Name and address of the employer *University of Rome La Sapienza, Department of Experimental Medicine*  
 Type of business or sector Education/scientific Research  
 Occupation or position held Associate Professor of Technical Sciences of Laboratory Medicine ; MED/46;
- Dates (from - to) **2018 - 2019:**  
 Name and address of the employer *University of Rome La Sapienza, Department of Experimental Medicine*  
 Type of business or sector Scientific Research  
 Occupation or position held Member of the University Research Commission "Commissione Ricerca di Ateneo". D.R. 1348/2018 del 24/05/2018 – for the years 2018 and 2019, "La Sapienza" University of Rome;
- Dates (from - to) **2006 - 2012:**  
 Name and address of the employer *University of Rome La Sapienza, Department of Experimental Medicine*  
 Type of business or sector Scientific Research  
 Occupation or position held Assistant Professor of General Pathology MED/04;

	<ul style="list-style-type: none"> <li>• Dates (from - to)</li> </ul>
• Name and address of the employer	<p>1998 - 2001:  <i>"Gwen Knapp Center for Immunology" and "Ben May Institute for Cancer Research", University of Chicago, Chicago IL, USA</i></p>
• Type of business or sector	Scientific Research
• Occupation or position held	Research Associate;
<b>EDUCATION AND TRAINING</b>	
	<ul style="list-style-type: none"> <li>• Dates (from - to)</li> </ul>
• Name and type of organisation providing education and training	<p>2005  <i>Sapienza University of Rome. PhD program in Endocrinology and Molecular Medicine</i></p>
• Title of qualification awarded	<i>PhD degree in Endocrinology and Molecular Medicine</i>
	<ul style="list-style-type: none"> <li>• Dates (from - to)</li> </ul>
• Name and type of organisation providing education and training	<p>1999  <i>Tor Vergata University of Rome. Specialization school in Microbiology and Virology.</i></p>
• Title of qualification awarded	<i>Specialization in Microbiology and Virology, "Summa cum laude"</i>
	<ul style="list-style-type: none"> <li>• Dates (from - to)</li> </ul>
• Name and type of organisation providing education and training	<p>1994  <i>Tor Vergata University of Rome</i></p>
• Title of qualification awarded	<i>Master degree in Biological Sciences, "Summa cum laude"</i>
<b>PUBLICATIONS</b>	
	Total number of publications in peer-review journals (Scopus): 83 Total Impact Factor (publication year) 546; average IF/paper: 7,37 Total number of citations: 5774 H index: 39
	Most relevant publications:
	<ol style="list-style-type: none"> <li>1. Coni, S., Bordone, R., Ivy, D.M., Yurtsever, Z.N., Di Magno, L., D'Amico, R., Cesaro, B., Fatica, A., Belardinilli, F., Bufalieri, F., Maroder, M., De Smaele, E., Di Marcotullio, L., Giannini, G., Agostinelli, E., Canettieri, G. Combined inhibition of polyamine metabolism and eIF5A hypusination suppresses colorectal cancer growth through a converging effect on MYC translation (2023) <i>Cancer Letters</i>, 559, 216120, DOI: 10.1016/j.canlet.2023.216120</li> <li>2. Citarella, A., Catanzaro, G., Besharat, Z.M., Trocchianesi, S., Barbagallo, F., Gosti, G., Leonetti, M., Di Fiore, A., Coppola, L., Autilio, T.M., Spinello, Z., Vacca, A., De Smaele, E., Venneri, M.A., Ferretti, E., Masuelli, L., Po, A. Hedgehog-GLI and Notch Pathways Sustain Chemosensitivity and Invasiveness in Colorectal Cancer and Their Inhibition Restores Chemotherapy Efficacy (2023) <i>Cancers</i>, 15 (5), 1471, DOI: 10.3390/cancers15051471</li> <li>3. Abballe, L., Alfano, V., Antonacci, C., Cefalo, M.G., Cacchione, A., Del Baldo, G., Pezzullo, M., Po, A., Moretti, M., Mastronuzzi, A., De Smaele, E., Ferretti, E., Locatelli, F., Miele, E. <math>\beta</math>-arrestin1-E2F1-ac axis regulates physiological apoptosis and cell cycle exit in cellular models of early postnatal cerebellum (2023) <i>Frontiers in Cell and Developmental Biology</i>, 11, 990711, DOI: 10.3389/fcell.2023.990711</li> <li>4. Bei, R., Benvenuto, M., Focaccetti, C., Fazi, S., Moretti, M., Nardozi, D., Angiolini, V., Ciuffa, S., Cifaldi, L., Carrano, R., Palumbo, C., Miele, M.T., Bei, R., Barillari, G., Manzari, V., De Smaele, E., Modesti, A., Masuelli, L.</li> <li>5. Combined treatment with inhibitors of ErbB Receptors and Hh signaling pathways is more effective than single treatment in reducing the growth of malignant mesothelioma both in vitro and in vivo. (2022) <i>Journal of Translational Medicine</i>, 20 (1), 286, DOI: 10.1186/s12967-022-03490-9</li> </ol>

6. Petroni, M., Fabretti, F., Di Giulio, S., Nicolis di Robilant, V., La Monica, V., Moretti, M., Belardinilli, F., Bufalieri, F., Coppa, A., Paci, P., Corsi, A., De Smaele, E., Coni, S., Canettieri, G., Di Marcotullio, L., Wang, Z.-Q., Giannini, G. A gene dosage-dependent effect unveils NBS1 as both a haploinsufficient tumour suppressor and an essential gene for SHH-medulloblastoma(2022) *Neuropathology and Applied Neurobiology*, 48 (6), e12837, DOI: 10.1111/nan.12837
7. Overi, D., Carpino, G., Moretti, M., Franchitto, A., Nevi, L., Onori, P., De Smaele, E., Federici, L., Santorelli, D., Maroder, M., Reid, L.M., Cardinale, V., Alvaro, D., Gaudio, E. Islet Regeneration and Pancreatic Duct Glands in Human and Experimental Diabetes (2022) *Frontiers in Cell and Developmental Biology*, 10, 814165, DOI: 10.3389/fcell.2022.814165.
8. Angrisani, A., Di Fiore, A., De Smaele, E., Moretti, M. The emerging role of the KCTD proteins in cancer (2021) *Cell Communication and Signaling*, 19 (1), 56, DOI: 10.1186/s12964-021-00737-8.
9. De Blasio, C., Verma, N., Moretti, M., Cialfi, S., Zonfrilli, A., Franchitto, M., Truglio, F., De Smaele, E., Ichijo, H., Naguro, I., Sclepanti, I., Talora, C. Functional cooperation between ASK1 and p21Waf1/Cip1 in the balance of cell-cycle arrest, cell death and tumorigenesis of stressed keratinocytes (2021) *Cell Death Discovery*, 7 (1), art. no. 75, DOI: 10.1038/s41420-021-00459-3
10. Di Murro, B., Moretti, M., De Smaele, E., Letizia, C., Lubrano, C., Passarelli, P.C., D'addona, A., Pompa, G., Papi, P. Microbiological profiles of dental implants in metabolic syndrome patients: A case-control study (2021) *Antibiotics*, 10 (4), art. no. 452, DOI: 10.3390/antibiotics10040452.
11. Miele, E., Po, A., Mastronuzzi, A., Carai, A., Besharat, Z.M., Pediconi, N., Abballe, L., Catanzaro, G., Sabato, C., De Smaele, E., Canettieri, G., Di Marcotullio, L., Vacca, A., Mai, A., Levrero, M., Pfister, S.M., Kool, M., Giangaspero, F., Locatelli, F., Ferretti, E. Downregulation of miR-326 and its host gene β-arrestin1 induces pro-survival activity of E2F1 and promotes medulloblastoma growth(2021) *Molecular Oncology*, 15 (2), pp. 523-542. DOI: 10.1002/1878-0261.12800
12. Moretti, M., Di Francesco, B., Nolfi, M.D.V., Angrisani, A., De Smaele, E. Methods for Modulating the Pathway of NF-κB Using Short Hairpin RNA (shRNA) (2021) *Methods in Molecular Biology*, 2366, pp. 95-107. DOI: 10.1007/978-1-0716-1669-7\_6
13. Angrisani A, Di Fiore A, Di Trani CA, Fonte S, Petroni M, Lospinoso Severini L, Bordin F, Belloni L, Ferretti E, Canettieri G, Moretti M, **De Smaele E**. Specific Protein 1 and p53 Interplay Modulates the Expression of the KCTD-Containing Cullin3 Adaptor Suppressor of Hedgehog 2. **Front Cell Dev Biol.** 2021 Apr 8;9:638508. doi:10.3389/fcell.2021.638508.
14. Akman M, Belisario DC, Salaroglio IC, Kopecka J, Donadelli M, **De Smaele E**, Riganti C. Hypoxia, endoplasmic reticulum stress and chemoresistance: dangerous liaisons. **J Exp Clin Cancer Res.** 2021 Jan 11;40(1):28. doi: 10.1186/s13046-020-01824-3.
15. Coni S, Serrao SM, Yurtsever ZN, Di Magno L, Bordone R, Bertani C, Licursi V, Ianniello Z, Infante P, Moretti M, Petroni M, Guerrieri F, Fatica A, Macone A, **De Smaele E**, Di Marcotullio L, Giannini G, Maroder M, Agostinelli E, Canettieri G. Blockade of EIF5A hypusination limits colorectal cancer growth by inhibiting MYC elongation. **Cell Death Dis.** 2020 Dec 10;11(12):1045. doi: 10.1038/s41419-020-03174-6.
16. Po A, Citarella A, Catanzaro G, Besharat ZM, Trocchianesi S, Gianno F, Sabato C, Moretti M, **De Smaele E**, Vacca A, Fiori ME, Ferretti E. Hedgehog-GLI signalling promotes chemoresistance through the regulation of ABC transporters in colorectal cancer cells. **Sci Rep.** 2020 Aug 19;10(1):13988. doi: 10.1038/s41598-020-70871-9.
17. Spiombi E, Angrisani A, Fonte S, De Feudis G, Fabretti F, Cucchi D, Izzo M, Infante P, Miele E, Po A, Di Magno L, Magliozzi R, Guardavaccaro D, Maroder M, Canettieri G, Giannini G, Ferretti E, Gulino A, Di Marcotullio L, Moretti M, **De Smaele E**. KCTD15 inhibits the Hedgehog pathway in Medulloblastoma cells by increasing protein levels of the oncosuppressor KCASH2. **Oncogenesis.** 2019 Nov 4;8(11):64. doi: 10.1038/s41389-019-0175-6.
18. Scicchitano S, Giordano M, Lucchino V, Montalcini Y, Chiarella E, Aloisio A, Codispoti B, Zoppoli P, Melocchi V, Bianchi F, **De Smaele E**, Mesuraca

- M, Morrone G, Bond HM. The stem cell-associated transcription co-factor, ZNF521, interacts with GLI1 and GLI2 and enhances the activity of the Sonic hedgehog pathway. *Cell Death Dis.* 2019 Sep 26;10(10):715. doi: 10.1038/s41419-019-1946-x.
19. Bufalieri F, Infante P, Bernardi F, Caimano M, Romania P, Moretti M, Lospinoso Severini L, Talbot J, Melaiu O, Tanori M, Di Magno L, Bellavia D, Capalbo C, Puget S, **De Smaele E**, Canettieri G, Guardavaccaro D, Busino L, Peschiaroli A, Pazzaglia S, Giannini G, Melino G, Locatelli F, Gulino A, Ayrault O, Fruci D, Di Marcotullio L. ERAP1 promotes Hedgehog-dependent tumorigenesis by controlling USP47-mediated degradation of  $\beta$ TrCP. *Nat Commun.* 2019 Jul 24;10(1):3304. doi: 10.1038/s41467-019-11093-0.
  20. Infante P, Faedda R, Bernardi F, Bufalieri F, Lospinoso Severini L, Alfonsi R, Mazzà D, Siler M, Coni S, Po A, Petroni M, Ferretti E, Mori M, **De Smaele E**, Canettieri G, Capalbo C, Maroder M, Screpanti I, Kool M, Pfister SM, Guardavaccaro D, Gulino A, Di Marcotullio L. Itch/ $\beta$ -arrestin2-dependent non- proteolytic ubiquitylation of SuFu controls Hedgehog signalling and medulloblastoma tumorigenesis. *Nat Commun.* 2018 Mar 7;9(1):976. doi: 10.1038/s41467-018-03339-0.
  21. Po A, Silvano M, Miele E, Capalbo C, Eramo A, Salvati V, Todaro M, Besharat ZM, Catanzaro G, Cucchi D, Coni S, Di Marcotullio L, Canettieri G, Vacca A, Stassi G, **De Smaele E**, Tartaglia M, Screpanti I, De Maria R, Ferretti E. Noncanonical GLI1 signaling promotes stemness features and in vivo growth in lung adenocarcinoma. *Oncogene.* 2017 Aug 10;36(32):4641-4652. doi: 10.1038/onc.2017.91.
  22. ▪ D'Amico D, Antonucci L, Di Magno L, Coni S, Sdruscia G, Macone A, Miele E, Infante P, Di Marcotullio L, **De Smaele E**, Ferretti E, Ciapponi L, Giangaspero F, Yates JR 3rd, Agostinelli E, Cardinali B, Screpanti I, Gulino A, Canettieri G. Non-canonical Hedgehog/AMPK-Mediated Control of Polyamine Metabolism Supports Neuronal and Medulloblastoma Cell Growth. *Dev Cell.* 2015 Oct 12;35(1):21-35. doi: 10.1016/j.devcel.2015.09.008.
  23. ▪ Infante P, Mori M, Alfonsi R, Ghirga F, Aiello F, Toscano S, Ingallina C, Siler, M, Cucchi D, Po A, Miele E, D'Amico D, Canettieri G, **De Smaele E**, Ferretti E, Screpanti I, Uccello Barretta G, Botta M, Botta B, Gulino A, Di Marcotullio L. Gli1/DNA interaction is a druggable target for Hedgehog-dependent tumors DOI 10.15252/embj.201489213 *EMBO J.* 2015 Jan 13;34(2):200-17.
  24. ▪ Mauro C, Leow SC, Anso E, Rocha S, Thotakura AK, Tornatore L, Moretti M, **De Smaele E**, Beg AA, Tergaonkar V, Chandel NS, Franzoso G. NF- $\kappa$ B controls energy homeostasis and metabolic adaptation by upregulating mitochondrial respiration. *Nature Cell Biol.* 2011; 13:1272-9.
  25. ▪ **De Smaele E**, Di Marcotullio L, Moretti M, Pelloni M, Occhione MA, Infante P, Cucchi D, Greco A, Pietrosanti L, Todorovic J, Coni S, Canettieri G, Ferretti E, Bei R, Maroder M, Screpanti I, Gulino A. Identification and characterization of KCASH2 and KCASH3, 2 novel Cullin3 adaptors suppressing histone deacetylase and Hedgehog activity in medulloblastoma. *Neoplasia.* 2011; 13:374-85.
  26. ▪ Canettieri G, Di Marcotullio L, Greco A, Coni S, Antonucci L, Infante P, Pietrosanti L, **De Smaele E**, Ferretti E, Miele E, Pelloni M, De Simone G, Pedone EM, Gallinari P, Giorgi A, Steinkühler C, Vitagliano L, Pedone C, Schininà ME, Screpanti I, Gulino A. Histone deacetylase and Cullin3-REN(KCTD11) ubiquitin ligase interplay regulates Hedgehog signalling through Gli acetylation. *Nature Cell Biol.* 2010; 12:132-42.
  27. ▪ Ferretti E\*, **De Smaele E\***, Po A, Di Marcotullio L, Tosi E, Espinola MS, Di Rocco C, Riccardi R, Giangaspero F, Farcomeni A, Nofroni I, Laneve P, Gioia U, Caffarelli E, Bozzoni I, Screpanti I, Gulino A. MicroRNA profiling in human medulloblastoma. *Int J Cancer.* 2009; 124:568-77.
- \*Equal contributors.
28. ▪ Ferretti E\*, **De Smaele E\***, Miele E, Laneve P, Po A, Pelloni M, Paganelli A, Di Marcotullio L, Caffarelli E, Screpanti I, Bozzoni I, Gulino A. Concerted microRNA control of Hedgehog signalling in cerebellar neuronal progenitor and tumour cells. *EMBO J.* 2008; 27:2616-27.
- \*Equal contributors.
29. ▪ **De Smaele E**., C. Fragomeli, E. Ferretti, M. Pelloni, A. Po, G. Canettieri, S. Coni, L. Di Marcotullio, A. Greco, M. Moretti, C. Di Rocco, S. Pazzaglia,

- M. Maroder, I. Screpanti, G. Giannini, A. Gulino. An integrated approach identifies Nhlh1 and Insm1 as Sonic-Hedgehog-regulated genes in developing cerebellum and medulloblastoma. **Neoplasia**, 2008; 10:89-98.
30. ▪ Di Marcotullio L, Ferretti E, Greco A, **De Smaele E**, Po A, Sico MA, Alimandi M, Giannini G, Maroder M, Screpanti I, Gulino A. Numb is a suppressor of Hedgehog signaling and targets Gli1 for Itch-dependent ubiquitination. **Nature Cell Biology**. 2006; 8:1415-23.
31. ▪ Pham C.G., Bubici C., Zazzeroni F., Papa S., Jones J., Alvarez K., Jayawardena S., **De Smaele E.**, Cong R., Beaumont C., Torti F.M., Torti S.V., Franzoso G. Ferritin Heavy Chain Upregulation by NF-kappaB Inhibits TNFalpha-Induced Apoptosis by Suppressing Reactive Oxygen Species. **Cell**. 2004; 119:529-42.
32. ▪ \*Di Marcotullio L., \*Ferretti E., \***De Smaele E.**, Argenti B., Mincione C., Zazzeroni F., Gallo R., Masuelli L., Napolitano M., Maroder M., Modesti A., Giangaspero F., Screpanti I., Alesse E., Gulino A. REN(KCTD11) is a suppressor of Hedgehog signaling and is deleted in human medulloblastoma. **Proc Natl Acad Sci U S A**. 2004; 101:10833-8.  
\*equal contributors
33. ▪ Papa S, Zazzeroni F, Bubici C, Jayawardena S, Alvarez K, Matsuda S, Nguyen DU, Pham CG, Nelsbach AH, Melis T, **De Smaele E**, Tang WJ, D'Adamio L, Franzoso G. Gadd45beta mediates the nf-kappab suppression of jnk signalling by targeting mkk7/jnkk2. **Nature Cell Biology** 2004; 6:146-53.
34. ▪ Zazzeroni F, Papa S, **De Smaele E**, Franzoso G. Cell signalling (communication arising) - Cell survival and a Gadd45-factor deficiency. **Nature** 2003, 424:742.
35. ▪ **De Smaele E.**, Zazzeroni F., Papa S., Nguyen D.U., Jin R., Jones J., Cong R., and Franzoso G. Induction of gadd45 $\beta$  by NF- $\kappa$ B down-regulates pro-apoptotic JNK signaling. **Nature**. 2001; 414: 308-13.
- Lavoro oggetto di:**  
**\*News and Views: 2001. Nature, 414:265-266.**  
**\*Highlights: 2001. Nature Reviews in Molecular Cell Biology 2: 875.**

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