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**Education:**

**1996** - Graduate in Medicine and Surgery. Autonomous University of Madrid.

**2002** - Specialist, Medical Oncology. Obtained Residency (MIR) in Medical Oncology by competitive examination in February 1997. Residency of Medical Oncology at the University Hospital, University of Navarra, from May 1998 until May 2002

**2002** - Doctor in Medicine and Surgery. Thesis: "Treatment with paclitaxel and cisplatin in combination with vinorelbine or gemcitabine in patients with non-small cell lung cancer stage IV", passed with "*Summa cum laude* by unanimous decision". Co-directors of the thesis: Jesús García-Foncillas and Alfonso Gúrpide Ayarra. Title awarded by the University of Navarra.

**2011** – Graduate in Statistics, Health Sciences. Autonomous University of Barcelona

**2011** – Master in Research Methodology in Health Sciences. Autonomous University of Barcelona

**2011** – Master In Medical Direction and Clinical Management. Universidad Nacional de Educación a Distancia (UNED)

**Professional Experience:**

**2002-2003**– Collaborating Clinician (Associate Physician) in Medical Oncology at the University Clinic of Navarra.

**2003** – **Associate Physician at the Oncology Service, Hospital Vall d'Hebron, Barcelona, from June 2003 to present.** Associate Physician by COMPETITIVE EXAMINATION (Official Journal of the Generalitat of Catalonia: DOGC n. 4729-29/09/2006)

**2006**- Acting Section Chief of the breast cancer division, Vall d'Hebron University Hospital

**2007**- Acting Section Chief of the melanoma division, Vall d'Hebron University Hospital

**2008**- Head Breast Cancer Program of the Vall d'Hebron Institute of Oncology (VHIO)

**2004-2007** Collaborating Clinician at the Teknon Cancer Institute

**2007**- Clinical Consultant at the Baselga Cancer Institute, Quiron Hospital.

**2006**- Tutor of residents of Medical Oncology, Vall d'hebron University Hospital.

**Publication List ( Selected publication ):**

1. Scaltriti M, Rojo F, Ocaña A, Anido J, Guzman M, Cortés J, Di Cosimo S, Matias-Guiu X, Ramon y Cajal S, Arribas J, Baselga J. "p95HER2, a truncated form of the HER2 receptor, and response to anti-HER2 therapies in breast cancer". J Natl Cancer Inst 2007; 99: 628-38.
2. Cortés J, Di Cosimo S, Climent M, et al. Non-pegylated Liposomal Doxorubicin (TLC-D99), Paclitaxel and Trastuzumab in HER2 Overexpressing Breast Cancer: A Multicenter Phase I/II Study. Clin Cancer Res 2009; 15: 307-14.
3. Cortés J, Baselga J. How to Treat Hormone Receptor-Positive, Human Epidermal Growth Factor Receptor 2-Amplified Breast Cancer. J Clin Oncol 2009; 27: 5492-94.
4. Baselga J, Gelmon K, Verma S, Wardley A, Conte P, Miles D, Bianchi G, Cortés J, McNally V, Ross G, Fumoleau P, Gianni L. A Phase II Trial of Pertuzumab and Trastuzumab in Patients with HER2-Positive Metastatic Breast Cancer That Had Progressed During Prior Trastuzumab Therapy. J Clin Oncol 2010; 28: 1138-44.
5. Gianni L, Llado A, Bianchi G, Cortés J, et al. Open-Label, Phase II, Multicenter, Randomized Study of the Efficacy and Safety of Two Dose Levels of Pertuzumab, A Her2 Dimerization Inhibitor, In Patients With Her2-Negative Metastatic Breast Cancer. J Clin Oncol 2010; 28: 1131-37.
6. Leyland-Jones B, Colomer R, Trudeau M, Wardley A, Latreille J, Cameron D, Cubedo R, Al-Sakaff N, Feyereislova A, Catalani O, Fukushima Y, Brewster M, Cortés J. An Intensive Loading Dose of Trastuzumab Achieves Higher Than Steady-State Serum Concentrations and Is Well Tolerated. J Clin Oncol 2010; 28: 960-66.

7. Miles M, Chan A, Dirix L, Cortés J, et al. Phase III Study of Bevacizumab plus Docetaxel Compared with Placebo plus Docetaxel for the First-line Treatment of HER2-negative Metastatic Breast Cancer. *J Clin Oncol* 2010; 28: 3239-47.
8. Cortés J, Vahdat L, Blum J, et al. A phase II study of halichondrin B analog eribulin mesylate (E7389) in patients with locally advanced or metastatic breast cancer, previously treated with an anthracycline, a taxane, an capecitabine. *J Clin Oncol* 2010; 28:3922-8.
9. Cortés J, Saura C, Bellet M, et al. HER2 and hormone receptor-positive breast cancer-blocking the right target. *Nat Rev Clin Oncol* 2011; 8:307-11
10. Cortés J, O'Shaughnessy J, Loesch D, et al. A Phase III open-label randomised study (EMBRACE) of eribulin monotherapy versus treatment of physician's choice in patients with metastatic breast cancer. *Lancet* 2011; 377:914-23
11. Scaltriti M, Eichhorn PJ, Cortés J, et al. Cyclin E amplification/overexpression is a mechanism of trastuzumab resistance in HER2+ breast cancer patients. *Proc Natl Acad Sci USA* 2011; 108:3761-6
12. Bergh J, Bondarenko IM, Lichinitser MR, Liljegren A, Greil R, Voytko NL, Makhson AN, Cortés J, et al. First-Line Treatment of Advanced Breast Cancer with Sunitinib in Combination with Docetaxel versus Docetaxel Alone – Results of a Prospective, Randomized Phase III Study. *J Clin Oncol* 2012; 30:921-9
13. Cortés J, Fumoleau P, Bianchi G, et al. Pertuzumab Monotherapy Following Trastuzumab-Based Treatment and Subsequent Reintroduction of Trastuzumab: Activity and Tolerability in Patients with Advanced HER2-Positive Breast Cancer. *J Clin Oncol* 2012; 30:1594-600
14. Baselga J, Cortes J, Sung-Bae-K, et al. Pertuzumab plus Trastuzumab plus Docetaxel in Metastatic Breast Cancer. *N Engl J Med* 2012; 366:109-119
15. Scaltriti M, Dawood S, Cortes J. Molecular Pathways: Targeting Hsp90, who benefits and who does not. *Clin Cancer Res* 2012; 18(17):4508-13
16. Cortes J, Calvo E, González-Martín E, et al. Progress against Solid Tumors in Danger: The Metastatic Breast Cancer Example. *J Clin Oncol* 2012; 30(28): 3444-7
17. Somlo G, Atzori F, Strauss LC, Geese W, Specht JM, Gradishar WJ, Rybicki A, Sy O, Vahdat LT, Cortes J. Dasatinib Plus Capecitabine for Advanced Breast Cancer: Safety and Preliminary Efficacy in Phase I Study CA180004. *Clin Cancer Res*. 2013 1;19(7):1884-93
18. Swain SM, Kim SB, Cortes J, Ro J, Semiglazov V, Campone M, Ciruelos E, Ferrero JM, Schenneweiss A, Knott A, Clark E, Ross G, Benynes MC, Baselga J. Pertuzumab, trastuzumab, and docetaxel for HER2-positive metastatic breast cancer (CLEOPATRA study): overall survival results from a randomized, double-blind, placebo-controlled, phase 3 study. *Lancet Oncol* 2013;14(6):461-71
19. Schneeweiss A, Chia S, Hickish T, Harvey V, Eniu A, Hegg R, Tausch C, Seo JH, Tsai YF, Ratnayake J, McNally V, Ross G, Cortes J. Pertuzumab Plus Trastuzumab in Combination With Standard Neoadjuvant Anthracycline-Containing and Anthracycline-Free Chemotherapy Regimens in Patients With HER2-Positive Early Breast Cancer: A Randomized Phase II Cardiac Safety Study (TRYPHAENA). *Ann Oncol*. 2013;24(9):2278-84
20. J.Cortes, J.Baselga, Y.-H.Im, S.-A.Im, X.Pivot, G.Ross, E.Clark, A.Knott, S.M.Swain. Health-related quality of life assessment in CLEOPATRA, a Phase III study combining pertuzumab with trastuzumab and docetaxel in metastatic breast cancer. *Ann Oncol* 2013 ;24(10):2630-5
21. Cortes J, Calvo E, Vivancos A, Perez-Garcia J, Recio JA, Seoane. J. New Approach to Cancer Therapy Based on a Molecularly Defined Cancer Classification. *CA Cancer J Clin*. 2014; 64(1):70-4

### Research Activities:

My professional interest focuses on translational research and new breast cancer drugs, especially new chemotherapy agents and therapies targeted against growth factor receptors and intracellular signaling molecules.

Following is a summary of my most relevant contributions:

**1. -HER2 oncogene:** With the development of trastuzumab, treatment of HER2-positive breast tumors has evolved markedly. We have participated in projects aimed at optimizing treatment with trastuzumab (Cortés J, et al. *J Clin Oncol* 2009; Leyland-Jones B, et al. *J Clin Oncol* 2010). However, our knowledge continues to expand about many resistance mechanisms that lead to disease progression and ultimately death of many patients. In collaboration with basic researchers, I was the researcher who linked laboratory findings with the clinical course of patients. Thus, we discovered how truncated forms of the HER2 receptor (Scaltriti M, et al. *J Natl Cancer Inst* 2007) and how

quantitative alterations of cyclin E (Scaltriti M, et al. Submitted to Proc Natl Acad Sci USA) are associated with resistance to trastuzumab.

We observed how complete blockage of the HER2 receptor with trastuzumab and pertuzumab (a monoclonal antibody directed against the HER2 receptor domain II) has benefits in patients previously resistant to trastuzumab (Baselga J, et al. J Clin Oncol 2010). I was the driving force behind a new theory regarding biological drugs, which is that "the combination of two or more drugs may be active even though patients have progressed through each of them separately." I was the first researcher to observe this phenomenon in patients (Cortés J, et al., J Clin Oncol 2012). The combination of pertuzumab and trastuzumab has shown to be effective in metastatic breast cancer in randomized phase III studies (Baselga J, Cortes J et al N Engl J Med 2012).

**2.-Intracellular signaling molecules:** I have been actively involved, together with Dr. Baselga, in the development of "small molecules" directed against various intracellular therapeutic targets. Among the most attractive projects is one aimed at inhibitors of src, a molecule involved in cell proliferation. My work in this field has led us to develop dasatinib, not only in monotherapy, but also in combination with capecitabine (Somlo G, et al Clin Cancer Res 2013), and to the development of numerous PI3K and mTOR inhibitors (work in progress).

**3.-Angiogenesis:** I have been very actively involved in the development of drugs against tumor angiogenesis, especially bevacizumab, an antibody directed against VEGF (Miles D, et al. J Clin Oncol 2010), and sunitinib, a small molecule particularly active against the VEGFR (Bergh J, et al., J Clin Oncol 2012). I have headed several studies focused on the toxicity of bevacizumab in breast cancer (Cortés J, et al. Ann Oncol 2011; Cortes J, et al. Eur J Cancer 2012). We believe that this toxicity, in addition to depend on the drug, also depends on the pathology against which it is used (Cortés J, et al. JAMA 2009; Cortes J, et al. J Clin Oncol 2012).

**4.-New chemotherapeutic agents:** I have headed the clinical development of several chemotherapeutic drugs for the treatment of breast cancer. I have actively participated in the clinical development of eribulin, a new antitubulin drug with a novel mechanism of action. The phase II study results were published in 2010 (Cortés J, et al. J Clin Oncol 2010) and the EMBRACE study results were published in 2011 (Cortés J, et al. Lancet 2011), have led to the approval of this drug for the treatment of patients with metastatic breast cancer by the Food and Drug Administration (FDA) on November 15, 2010 and for European Medicines Agency (EMA) in March 2011.

I am the co-principal investigator of an international registry study with a new vinca alkaloid, vinflunine, a drug approved for the treatment of patients with previously treated bladder cancer.

**5.-Clinical breast cancer research:** At present, in my capacity as head of the breast cancer program of the Vall d'Hebron Institute of Oncology, I am conducting a series of studies in which the most important role is reserved for the staff of my Unit. This will allow us to grow, not only from a personal perspective, but also as a team. This work philosophy has allowed positioning the Vall d'Hebron's Breast Unit as one of the most prestigious of its kind, both nationwide and internationally.

## Grants

-Grant from U.S. (ASCO and AACR) and European (EORTC) oncology associations to participate in the sixth "International Workshop on Methods in Clinical Cancer Research"

It was held in Flims, Switzerland, and is currently accredited with 53 CME credit points (ACOE). Accredited for developing clinical research in cancer for writing the clinical trial: "A Phase I Study of Everolimus (RAD001) in combination with Gefitinib in anthracycline- and taxane-pretreated patients with Metastatic Breast Cancer". June 2004.

-European Comision . Ref. 250244 "Overcoming Resistance to anti-HER2 Therapy (OVERHER2)" .

Co-Investigator 2011-2014

-Fundación Mutua Madrileña. "Valoración de la potencial sinergia entre los inhibidores de PI3K (BEZ235 y BKM120) y la eribulina en pacientes con cáncer de mama HER-2 negativo metastásico" . Principal Investigator 2012

-Asociación Española Contra el Cáncer (AECC) "Nuevas estrategias para tratar el cáncer de mama positivo para HER2". Co-Investigator. 2012-2017

-Instituto de Salud Carlos III (FIS). Ref:PI12/02594 " Desvelando las vías moleculares que llevan al desarrollo de la carcinomatosis leptomeningea" Principal Investigator. 2013-2015

- Instituto de Salud Carlos III Ministerio de Sanidad (Transcan) Ref. PI12/03109E “Predicción precoz de eficacia de la terapia endocrina en cáncer de mama: estudio piloto y validación con 18F-FES” Co-Investigador. 2013-2015
- Roche “Implementación Clínica de los subtipos Moleculares de Cancer de Mama” . Co-Investigador 2012-2013.
- Institute Jules Bordet. “NEOBIG- Evaluating tumor simple preservation, integrity and performance:The NEOBIG pilot feasibility study”. Co-Investigador 2013
- Red Temática de Investigación Cooperativa del Cáncer (RTICC) Instituto de Salud Carlos III. Ref: RD06/0020/0075. Co-Investigador. 2007-2013
- Servei General de Recerca. Grupo de Investigación Consolidado. Ref. 2009SGR342. Co-Investigador 2010-2014.