Prof. Dr. Christoph Stein
Professor and Chair
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2016	Member, Einstein Center for Neurosciences Berlin
2015	Member, Berlin Institute of Health
2012	Member, Helmholtz Virtual Institute - Multifunctional Biomaterials for Medicine
2002	Professor, International Graduate Program Medical Neurosciences, Charité, Berlin
1997	Professor/Chair Anesthesiology and Critical Care Medicine, Freie Universität Berlin
1997	Full Professor (tenured), Anesthesiology and Critical Care Medicine (ACCM), Johns Hopkins University (JHU) Baltimore, USA
1994 - 1997	Associate Professor ACCM, JHU; research associate National Institutes of Health, National Institute on Drug Abuse (NIH/NIDA), Baltimore, USA
1992 - 1994	Assistant Professor ACCM, JHU; research associate NIH/NIDA, Baltimore
1992	Habilitation in Anesthesiology, Ludwig Maximilians Universität (LMU) München
1986 - 1992	Instructor in Anesthesiology, LMU München; research associate Neuropharmacology, Max-Planck-Institute for Psychiatry
1985 - 1986	Fellow in Pain Management and Research, University of California Los Angeles, USA
1983 - 1985	Resident in Anesthesiology and Critical Care Medicine, State University of New York, Brooklyn, USA
1976 - 1982	Medical School, Dr. med. thesis, LMU München

Research topics:
Molecular mechanisms and treatment of pain; opioid pharmacology; expression, axonal transport, signaling, recycling of opioid receptors in sensory neurons; conformational dynamics of opioid receptor-ligand interactions; gene expression, processing, release, degradation of opioid peptides produced in immune cells; migration of opioid-producing immune cells; nanocarrier-directed transport of exogenous opioids to injured tissue and wounds; permeability of skin, intestinal, blood-brain and perineurial barriers; clinical studies on mechanisms and treatment of patients with postoperative, arthritic and neuropathic pain; bioethics of opioid use and therapeutic guidelines.

10 Selected Publications:

Stein C, Hassan AHS, Przewlocki R, Gramsch C, Peter K, Herz A: Opioids from immunocytes interact with receptors on sensory nerves to inhibit nociception in inflammation. **Proc Natl Acad Sci USA** 1990, 87: 5935-9

Stein C, Comisel K, Haimerl E, Lehrberger K, Yassouridis A, Herz A, Peter K: Analgesic effect of intraarticular morphine after arthroscopic knee surgery. **N Engl J Med** 1991, 325:1123-6

Stein C, Hassan AHS, Lehrberger K, Giefing J, Yassouridis A: Local analgesic effect of endogenous opioid peptides. **Lancet** 1993, 342:321-4

Schäfer M, Carter L, Stein C: Interleukin 1ß and corticotropin-releasing factor inhibit pain by releasing opioids from immune cells in inflamed tissue. **Proc Natl Acad Sci USA** 1994, 91:4219-23

Schäfer M, Mousa SA, Zhang Q, Carter L, Stein C: Expression of corticotropin-releasing factor in inflamed tissue is required for intrinsic peripheral opioid analgesia. **Proc Natl Acad Sci USA** 1996, 93:6096-100

Stein C, Pflüger M, Yassouridis A, Hoelzl J, Lehrberger K, Welte C, Hassan AHS: No tolerance to peripheral morphine analgesia in presence of opioid expression in inflamed synovia. **J Clin Invest** 1996, 98:793-9

Cabot PJ, Carter L, Gaiddon C, Zhang Q, Schäfer M, Loeffler JP, Stein C: Immune cell-derived beta-endorphin: production, release and control of inflammatory pain in rats. **J Clin Invest** 1997,100:142-8

Machelska H, Cabot PJ, Mousa SA, Zhang Q, Stein C: Pain control in inflammation governed by selectins. **Nature Med** 1998, 4(12):1425-8

Zöllner C, Mousa SA, Fischer O, Rittner HL, Shaqura M, Brack A, Shakibaei M, Binder W, Urban F, Stein C, Schäfer M. Chronic morphine use does not induce peripheral tolerance in a rat model of inflammatory pain. **J Clin Invest** 2008; 118(3):1065-73

Nockemann D, Rouault M, Labuz D, Hublitz P, McKnelly K, Reis FC, Stein C*, Heppenstall PA*: The K+ channel GIRK2 is both necessary and sufficient for peripheral opioid-mediated analgesia. **EMBO Mol Med** 2013;5:1263-77 (*equal contrib.)

5 grants since 2011:

Bundesministerium für Bildung und Forschung
Principal investigator (PI)
Neuroimmunology and Pain (NEUROIMPA; 01EC1403)

PI; Bundesministerium für Bildung und Forschung
e:Bio Innovationswettbewerb Systembiologie 0316177B „The Nociceptor Pain Model (NoPain)“

PI; European Commission
EU FP7-HEALTH-2013-INNOVATION-1; No. 602891-2
“Neuropathic pain: biomarkers and druggable targets within the endogenous analgesia system (NeuroPain)“

PI; Bundesministerium für Bildung und Forschung
„Validierung des Innovationspotentials wissenschaftlicher Forschung“ VIP0272, AZ 03V0364

PI; Bundesministerium für Bildung und Forschung
Musculoskeletal Diseases – ImmunoPain 01 EC 1004 C
“Opioid expression in immune cells and pain control”