	Group / Unit name	**EXPERIMENTAL PNEUMOLOGY**
	IP / Responsible	David RAMOS-BARBÓN
	Staff	5: 1 IP; 1 post-doc; 1 pre-doc; 1 coordinadora de investigación clínica; 1 enfermera
	Overview	La Unidad de Pneumologia Experimental desarrolla proyectos de ciencia básica e investigación clínica. En su faceta básica, su eje son los modelos de asma experimental en ratón/rata, enfocados al estudio del papel de las células madre mesenquimales y los mecanismos de regulación inmunitaria en la remodelación de vías respiratorias. En su vertiente clínica, desarrolla y mantiene un biobanco especializado en biopsias bronquiales para investigación en asma, y efectúa sistemáticamente ensayos clínicos en fase II a IV para la industria farmacéutica, prioritariamente en asma y EPOC, incluyendo ensayos internacionales multicéntricos y ensayos unicéntricos de diseño propio para fases de desarrollo temprano.
	Goals	Identificar mecanismos de enfermedad y dianas terapéuticas en el campo de la inflamación crónica y remodelación de vías respiratorias. Proporcionar a la industria de biotecnología y farmacéutica una plataforma para la ejecución de proyectos de desarrollo preclínico y ensayos clínicos.
Research activity	Fields of interest	Asma; EPOC; inflamación; inmunorregulación; modelos animales; ensayos clínicos
	Research subject	Epidemiology: Clinical: X Pre-clinical: X Basic: X Translational: X
	10 Main Publications (last 5 years)	1. Plaza V, Ramos-Barbón D, Muñoz AM, Fortuna AM, Crespo A, Murio C, Palomino R; EOLO Study Investigators. Exhaled Nitric Oxide Fraction as an Add-On to ACQ-7 for Not Well Controlled Asthma Detection. PLoS One 2013;8(10):e77085. 2. Valdiglesias V, Kiliç G, Costa C, Amor-Carro O, Mariñas-Pardo L, Ramos-Barbón D, Méndez J, Pásaro E, Laffon B. In vivo genotoxicity assessment in rats exposed to Prestige-like oil by inhalation. *J Toxicol Environ Health A* 2012;75(13-15):756-64. 3. De La Roque ED, Bellance N, Rossignol R, Begueret H, Billaud M, Santos PD, Ducret T, Marthan R, Dahan D, Ramos-Barbón D, Amor-Carro O, Savineau JP, Fayon M. DHEA reverses chronic hypoxia/reoxygenation-induced right ventricular dysfunction in rats. *Eur Respir J* 2012; in press [Epub ahead of print Apr 20]. 4. Ramos-Barbón D, Parra-Arrondo A. [Inflammation and remodeling of the distal airways: studies in humans and experimental models*]. Arch Bronconeumol* 2011;47 (Suppl 2):2-9. 5. Ramos-Barbón D. Resistance to glucocorticoids: another piece of the jigsaw. *Arch Bronconeumol* 2011;47(3):113-4. 6. Brienza NS, Amor-Carro O, Ramos-Barbón D. An update on the use of indacaterol in patients with COPD. *Ther Adv Respir Dis* 2011;5(1):29-40. 7. Vogelmeier C., Ramos-Barbon D., Jack D., Piggott S., Owen R., Higgins M., Kramer B. on behalf of INTIME study investigators. Indacaterol provides 24-hour bronchodilation in COPD: a placebo-controlled blinded comparison with

		tiotropium. *Respir Res* 2010;11:135. 8. Ramos-Barbón D., Fraga-Iriso R., Brienza N.S., Montero-Martínez C., Verea H., Olivenstein R., Lemiere C., Ernst P., Hamid Q.A., Martin J.G. T cells localize with proliferating α-SMA+ cell compartments in asthma. *Am J Respir Crit Care Med* 2010;182(3):317-24.
	Main research Projects (last 5 years)	1. SEPAR. The interaction between immune regulation and airway remodeling in asthma disease mechanisms: pathogenic outcomes versus therapeutic potential. 2012. 12,000 € 2. Fundació Catalana de Pneumologia (FUCAP). The interaction between immune regulation and airway remodeling in asthma disease mechanisms: pathogenic outcomes versus therapeutic potential. 2012 Vifor Farma Award. 9,000.00 € 3. FIS. The interaction between immune regulation and airway remodeling in asthma disease mechanisms: pathogenic outcomes versus therapeutic potential. PI11/01001. 156,540.12 € 4. GlaxoSmithKline Collaborative Research Trial. The role of adult mesenchymal stem cells in asthma: contribution to airway remodeling versus immunoregulatory and therapeutic potential. 2010. 64,400.00 € 5. SEPAR. Development of a biobank specialized in bronchial biopsy for asthma research. 09/862. 12,000.00 € 6. FIS. Role of effector versus regulatory T cells in asthma airway remodeling and stem cell mechanisms. PI08/1822. 215,017.00 €
	Stable International cooperations	James G. Martin. McGill Univrsity, Montreal, Canada. Patrick Berger. Universsité Bordeaux-2, Burdeos, Francia.
Capacities & Resources	Expertise	Asthma; COPD; Disease Animal Models; Clinical Trials.
	Technical skills	Rodent mechanical ventilation and pulmonary function testing; cell and molecular biology.
	Specific and singular Facilities & Equipment	Experimental pneumology laboratory, equipped with: mouse/rat mechanical ventilation & pulmonary function testing equipment; level-2 biocontainment facility for cell culture & gene transduction. Clinical trial facility (at *Centro de investigación de Medicamentos*) with spirometry, ECG equipment and 6 beds for overnight/PK studies.
	Model Organims	- Mouse and rat experimental asthma. - Retroviral cell gene transduction system for in vivo adoptive transfer.
	Clinical guidelines &	

	Statements of Scientific Societies	