



COORDINATION OF RESOURCES
FOR CONDITIONAL EXPRESSION
OF MUTATED MOUSE ALLELES

CREATE website: www.creline.org

Current status of CREATE Partner databases (15.06.2010):

Institute	BSRC-Fleming	GIE-CERBM	Mt. Sinai	Jax
Database	CreZoo	CreERT2Zoo	Cre-X-Mice	MGI Cre Portal
URL	http://bioit.fleming.gr/crezoo/	http://www.ics-mci.fr/crezoo.html	http://nagy.mshri.on.ca/cre_new/index.php	http://www.creportal.org
Cre driver strains	127	50	529	1199

Publishable summary:

CREATE is an internationally based Coordination Action directly addressing a large scale data gathering activity for conditional mouse mutagenesis. Advances in the sophisticated manipulation of the mouse genome have established the mouse as the premier organism for developing models of human disease. Internationally coordinated initiatives (EUCOMM, KOMP, NORCOMM) have set up for the systematic generation of conditional mouse mutants on a large scale employing Cre-lox binary system. Production of mutant mouse lines, each of which carries an altered or “floxed” allele of a single gene allows the creation of somatic mutations in defined genes. The full power of conditional mutants can only be exploited with the availability of well characterised mouse lines expressing Cre-recombinase in tissue, organ and cell type-specific patterns. However inaccessibility to existing Cre driver strains, their incomplete characterisation, and an inadequate coverage of cell and tissue types in which they are active now constitute the major bottleneck for the future development of targeted conditional mutant models. CREATE coordination action was set up to address these combined shortcomings. The CREATE consortium represents a core of eight major European and international mouse database holders and research groups involved in conditional mutagenesis. Together with an International Coordination Group (ICG), these Partners committed to deliver a well-annotated and integrated data resource of Cre driver strains, and to coordinate the expansion of the resource. To fulfil these deliverables CREATE consortium has formulated three broad goals, current progress to which is summarized hereafter.

1) to disseminate extant information on European Cre mouse resources through an

international CREATE portal, hosted in Europe, with linkages to international Cre driver databases that capture existing knowledge of Cre driver mouse lines according to a single set of standards. To meet this goal EMBL-EBI, the premier European database centre, has developed and launched the CREATE website (www.creline.org), which integrates information on Cre lines from Partner databases (CreZOO, Cre-X-Mice, and MGI Cre Portal) by employment of BioMart data management system. Associated networking activities supported by CREATE include the construction and curation of the CreZOO database for conditional mouse alleles currently being generated in Europe;

2) to develop a roadmap for harnessing emerging technologies and methods for improving Cre-mediated recombination in vivo. This is achieved predominantly through targeted workshops. The 1st CREATE Annual Workshop and ICG Meeting, which took place on 14-16 July 2009 at Down Hall Hotel, UK, convened international experts to select technologies and methodologies for generation and analysis of new Cre driver lines, to define characterization criteria, and to integrate Cre driver production in Europe with similar international efforts, as well as with ongoing programs in mouse conditional mutagenesis. Intensive discussions during this meeting led to an agreement on technologies to be used for expansion of Cre driver resource, with a major focus on BAC knock-in and transposon mediated approaches;

3) to define the requirements of the mouse research community, by collecting information on new Cre driver expression patterns necessary for in-depth analysis of mutagenesis in different cell and tissue types. In preparation for expansion of the Cre driver resource CREATE partners have devised a survey to be addressed to a broad international mouse research community. The aim of this survey is to collect requests and suggestions from the community with regard to the new Cre lines. The survey will be released through CREATE website (www.creline.org) in July 2010. The results from this survey will provide the main source for selection of Cre drivers to be generated within the forthcoming FP7 EUCOMMTOOLS programme.