Docket #: S24-005

Cpa3-Cre mice expressing Cre recombinase under the control of the carboxypeptidase A3 (Cpa3) promoter. Jackson Labs strain 026828

Peptidase carboxypeptidase A3 (Cpa3; originally named mast cell carboxypeptidase A14) is highly expressed in mast cells, but is also expressed in basophils and can be expressed in some populations of T-cell progenitors and thymic T cells and in certain hematopoietic progenitor cells. A segment of the mouse Cpa3 promoter drives expression of Cre recombinase in this transgenic strain. When crossed with Mcl1 (myeloid cell leukemia sequence 1) floxed mice (see Stock No. 006088), resultant animals are severely deficient in mast cells (92-100% reduced in various tissues analyzed) and have a marked deficiency in basophils (58-78% reduced in the compartments analyzed). The also exhibit striking impairment in mast cell- or basophil- and IgE-dependent biologic responses.

Applications

- This Cpa3-Cre strain is useful in pre-clinical studies that analyze the roles of mast cells, basophils, some populations of T-cell progenitors, thymic T cells and hematopoietic progenitor cells to identify potential drug targets for allergy, inflammation, and other diseases.

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