A Cell Line (CFK) from Fin of Isogeneic Ginbuna Crucian Carp
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Isogeneic ginbuna crucian carp is a naturally occurring gynogenetic fish. Some of the advantages to using this clonal fish are that they are easily maintained, they are fertile, and they are sufficiently similar to mice in their yearling size (40-60g) to use in immunological experiments, especially for syngeneic studies, in comparison with other artificial gynogenetic and/or inbred fishes. In addition, several clones that are allogeneic to one another have been established. These clonal fishes have been used to investigate adoptive transfer of immunity1),2) and graft rejection3). For the study of T cell-mediated immunity, inbred animals and/or cell lines derived from them are essential because antigen recognition by T lymphocytes is genetically restricted by the major histocompatibility complex (MHC). In particular, their cell lines are useful as target cells to detect T cell-mediated cytotoxicity. In fish, however, to our knowledge, neither clonal cell lines are useful as target cells to detect T cell-mediated cytotoxicity. In fish, although natural killer (NK)-like activity against virus-specific cytotoxic T cells (CTL) exists, the purpose of detecting T cell-mediated cytotoxicity, e.g., the activity of allo-specific or virus-specific cytotoxic T cells (CTL) in fish. Although natural killer (NK)-like activity against virus-

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infected cell lines has already been reported[6,7], to our knowledge, both CTL and NK activities against syngeneic cell lines have not been studied yet in fish. Recently, neutrophilic granulocytes in ginbuna crucian carp were shown to be spontaneously cytotoxic against K562 target cells at 25°C[8]. Cell lines from several clones of isogeneic ginbuna crucian carp (including the present Lake Kasumigaura K1 clone) will advance the study of both MHC-restricted CTL and MHC-unrestricted NK cells in fish.

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References