The objective of this research is to do sexing cow's embryos by Monoclonal Antibody (MAb) to H-Y antigen and Polymerase Chain Reaction (PCR). The MAb was produced by hybridoma techniques by the used of cattle spermatozoa as antigen to immunize 6 Balb/c mice. The mice which manifested high antibody titer to the H-Y antigen were detected by Enzyme-Linked Immunosorbent Assay (ELISA), were chosen as sources of spleenocytes. The spleenocytes from a mouse that showed the highest titer, were used for fusion with myeloma cells (X63Ag8.653) for the production of the hybridomas. At 14 – 21 days after fusion, hybridoma clones were found 3 wells were identified to be positive clones. When the three clonals were separated and immunoglobinal categorized, they all were Igs. Embryo was made by using the twelve 75-96.25% crossed Friesian cows superovulated. Then sexing verification by Monoclonal antibody to H-Y antigen (MAb), Indirecuted immunofluorescence method, and by Polymerase Chain Reaction (PRC) that used BOVM97 primer which was specific to Y chromosome. It was found that ovulation of left and right ovaries and number of embryo according to mean ± SD (n) were 5.6±3.06 (12), 5.8±3.67 (12) and .8±2.21 (12) respectively. The result of sexing 9 embryos by PCR technique was eight female and one male. Another group contained 7 embryos were verified by Monoclonal antibody to H-Y antigen (MAb) resulted that 6 were positive (male)
whereas the PRC technique verification result was just 5 were male. In conclusion, MAb's to H-Y antigen using to sexing in accordance with this study is 83% accurate when benchmarking by PCR technique.