

1) 性決定遺伝子 *SRX* から性分化・性差生物学の展開

① *Hsp-Sry* Tgによる*Sry*の臨界期決定の研究のNature誌での紹介

Research Highlights

RESEARCH HIGHLIGHTS

DEVELOPMENTAL BIOLOGY

Swing time Nature vol.456, p678

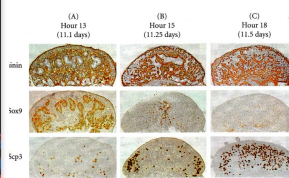
Development 136, 129–138 (2009)
All mammalian embryos grow up female unless told not to, with their 'supporting' cells turning into granulosa cells, which occur in the ovaries. Only when a Y-chromosome gene called *Sry* triggers the supporters to specialize as testicular cells that nurture growing sperm — Sertoli cells — does maleness follow.

A team led by Yoshiaki Kanai of the University of Tokyo has created a line of transgenic mice in which the turning on and off of *Sry* can be very tightly controlled. Using these mice, they have shown that *Sry* activation must occur during a six-hour window eleven days after mating if the adult is to have Sertoli rather than granulosa cells.

② 高校、大学の教科書等での成果の引用



Sex Determination 529



JUNE 15.9 Experimental delay of *Sry* gene activation by 6 hours leads to failure of testis development and the inhibition of ovary development. Gonadal ridges were removed from 10 mice carrying at-inducible *Sry* gene. These tissues were then heat-shocked at different times to activate *Sry* then allowed to mature. (A) Three gonadal ridges experiencing *Sry* induction at 11.5 days of age (when *Sry* is normally activated) produced testes. Their spermatid distribution showed all cells. *Sry* is marker of testis development was active, and *Spc2*, a marker of ovary development, was absent. (B) Three hours later, the activation of *Sry* caused a central testicular area to form with ovary-like structures forming peripherally. *Sry* was present in the central testicular region, and *Spc2* was absent in the periphery. (C) If *Sry* was activated in the gonadal ridges 6 hours later, the testes formed ovarian tissue. *Sry* was absent, and *Spc2* was seen throughout the tissue. (After



Developmental Biology, Tenth Edition 10th Edition

by Scott F. Gilbert (Author)

④ AERA Mook (朝日新聞)をはじめ性分化の解説と専門書

③ サイエンスチャンネルで性決定機序の解説



テクノ・ギャラリー

(34) 男と女、性はいつ生じるのか?



再生時間: 29分
制作年度: 2000年

YouTube

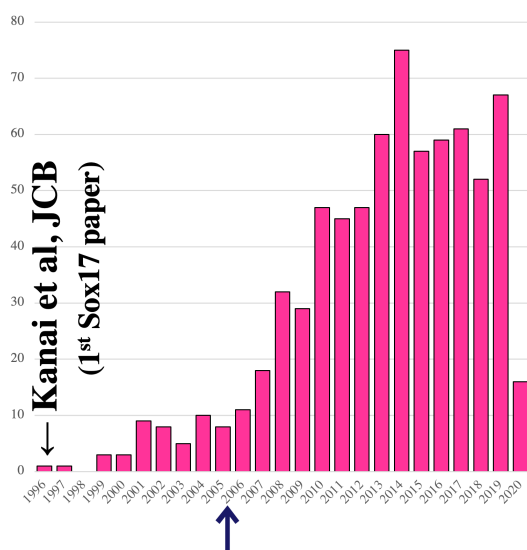
番組一覧へ戻る



2) 内胚葉決定遺伝子から始まった*SRX*関連 *SOX17*研究の潮流

Pubmed Title/Abstract "*SOX17*" 検索結果 724件

2020年3月時点



2006年の*iPS*細胞樹立 (Takahashi & Yamanaka, Cell, 2006) からヒト再生医療の研究で急激に内胚葉関連の*SOX17*の研究論文数が増加し、2010年以降は胆嚢を含めた内胚葉、造血幹細胞のマスター制御因子としてこれらの研究の中心的位置に置かれている!

申請者らの代表的な*SOX17*研究と被引用回数

Kanai, Y. et al. (1996) <i>J Cell Biol</i>	(217件)
Kanai-Azuma, M. et al. (2002) <i>Development</i>	(678件)
Matsui, T. et al. (2006) <i>J Cell Sci</i>	(191件)
Tam, P. P. et al. (2003) <i>Curr Opin Genet Dev</i>	(184件)
Sohn, J. et al. (2006) <i>J Neurosci</i>	(139件)
Sakamoto, Y. et al. (2007) <i>BBRC</i>	(135件)
Shimoda, M. et al. (2007) <i>J Cell Sci</i>	(91件)
Hara, K. et al. (2009) <i>Dev Biol</i>	(55件)
Uemura, M. et al. (2013) <i>Development</i>	(42件)
Uemura, M. et al. (2010) <i>BBRC</i>	(33件)
Matsuura, R. et al. (2006) <i>Stem Cells</i>	(30件)
Pfister, S. et al. (2011) <i>Int J Dev Biol</i>	(25件)
Saund, Kanai-Azuma et al., (2012) <i>Development</i>	(25件)
Nobuhisa I et al., (2010) <i>Mol. Cell. Biol.</i>	(20件)
Hirate Y et al., (2010) <i>Sci. Rep.</i>	(18件)
Higashiyama H et al., (2017) <i>Development</i>	(10件)

Google scholar citation (被引用件数)

