

## Datasheet

### Anti-CYP450 Aromatase Clone H4

Product Name	Anti Human Cytochrome P450 H4 Aromatase
Catalogue Number	H4
Clone, Isotype	H4, IgG2a
Format	IgG
Tested Applications	WB, IHC, IF, ICC

#### **Description:**

CYP450 Aromatase is part of the CYP19A1 family involved in the aromatization of androgens to estrogens, a highly conserved mechanism amongst mammals. Clone H4 recognizes a conserved epitope on the CYP450 aromatase, allowing for detection of aromatase levels using various analysis methods. (Turner et al. 2002).

#### **Product Details:**

**Form in stock:** IgG, purified – 1.0 mg/mL. Also available as unpurified supernatant.

**Host:** Mouse

**Specificity:** Synthetic peptide corresponding to AAs 376-390 of human aromatase (KALEDDVIDGYPVKK).

**Human Histology positive control:** Human placenta

**Fusion partner:** Spleen cells immunised from Balb/c were fused with cells of the mouse SP2/0 myeloma cell line.

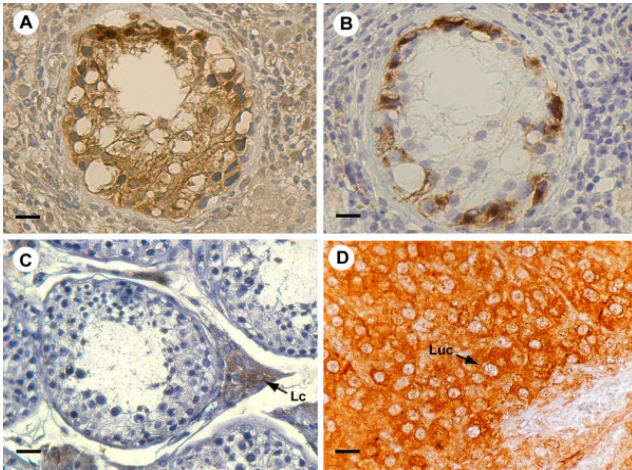
**Storage:** Store at +4°C or -20°C. Avoid repeated freezing and thawing.

**Shelf life:** 18 months from date of dispatch.

**Regulatory/ Restrictions:** For research and commercial purposes.

Applications	Suggested Dilution
Western Blot	1:50 – 1:5000 <sup>1,5,8</sup>
Immunohistochemistry - Paraffin	1:50 – 1:100 <sup>2,9,10</sup>
Immunofluorescence	1:100 <sup>3,6</sup>
Immunocytochemistry	1:75 <sup>4</sup>

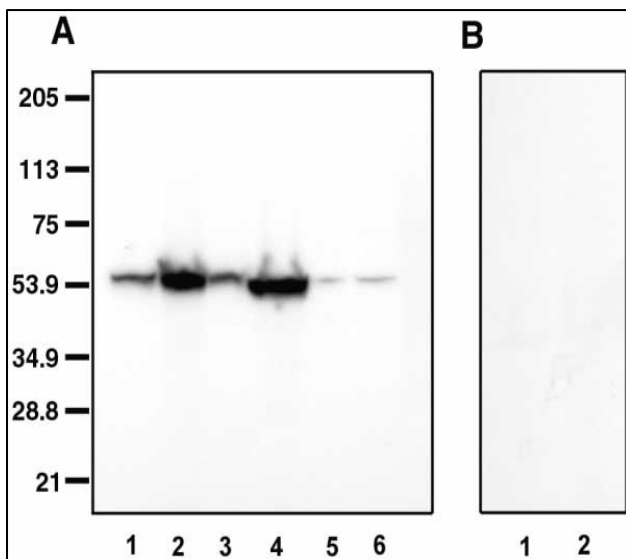
**Applications:**



Clone H4 used to detect aromatase in human tissues by IHC-P.

**Image caption:** A: Intense aromatase immunostaining in IGCC cells. B: Placental-like alkaline phosphatase staining of IGCC basal cells C: Strong aromatase immunoreactivity of interstitial Leydig cells in normal testis (Lc) D: Intense immunostaining of luteal cells (Luc) in ovarian tissue.(Rago, V et al. 2005)

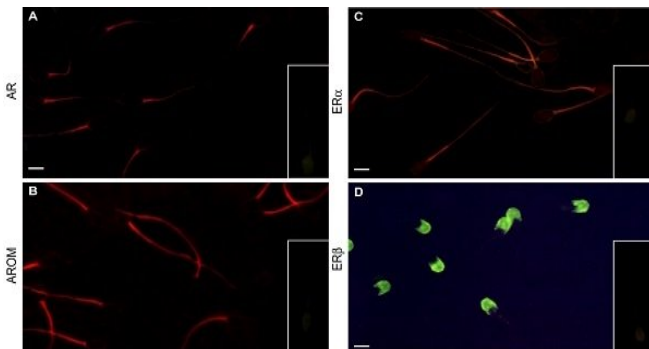
**Dilution used:** 1:50



Binding of H4 to a 55 kDa protein on the Cytochrome P450 aromatase protein by Western Blot

**Image Caption:** On Western blots, a single protein of 55 kDa was recognised by the monoclonal antibody raised against a peptide within the P450 aromatase protein (A). No signal was seen on blots incubated with antibody that had been pre-absorbed with immunising peptide (B). Extracts were prepared from the following tissues: lane 1, human placenta; lane 2, marmoset placenta; lane 3, marmoset ovary; lane 4, ovary from pregnant rat; lanes 5 and 6, ovaries from two rats killed at pro-oestrus.(Turner et al. 2002).

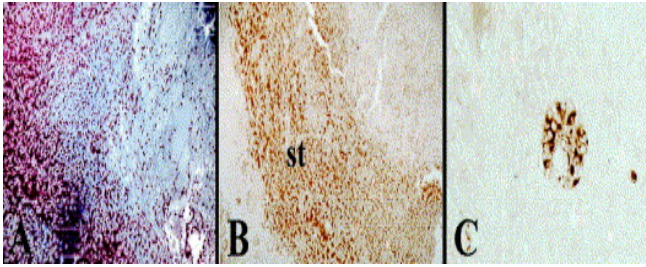
**Dilution used:** 1:5000



Clone H4 used to detect aromatase in pig sperm by Immunofluorescence

**Image caption:** ...B) P450arom red brilliant light in the proximal tail of sperm with a diffuse labelling in the distal tail... (Rago, V et al. 2007)

**Dilution used:** 1:100



Clone H4 used to detect aromatase in stromal cells by ICC

**Image caption:** Immunocytochemical localization of aromatase in the stromal cells of an endometriotic lesion (B) and in granulosa cells of a developing follicle (C, positive control). The histology of this lesion (A). *st* = stromal cells. (Fazleabas, AT et al.)

**Dilution used:** 1:75

## References:

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2. Rago, V., Romeo, F., Aquila, S., Montanaro, D., Andò, S., Carpino, A. (2005) Cytochrome P450 aromatase expression in human seminoma. *Reproductive Biology and Endocrinology*; 3:72.
3. Rago, V., Aquila, S., Panza, R., & Carpino, A. (2007). Cytochrome P450arom, androgen and estrogen receptors in pig sperm. *Reproductive Biology and Endocrinology*, 5, 23.
4. Fazleabas, A.T., Brudney, A., Chai, D., Langoi, D., Bulun, S.E. (2003) Steroid receptor and aromatase expression in baboon endometriotic lesions. *Fertility and Sterility; Volume 80, Supplement 2, Pages 820-827, ISSN 0015-0282*.
5. Sirianni, R., Chimento, A., De Luca, A., Zolea, F., Carpino, A., Rago, V., Pezzi, V. (2009). Inhibition of Cyclooxygenase-2 Down-regulates Aromatase Activity and Decreases Proliferation of Leydig Tumor Cells. *The Journal of Biological Chemistry*, 284(42), 28905–28916. **WB, Dilution used 1:50**
6. Catalano, S., Malivindi, R., Giordano, C., Gu, G., Panza, S., Bonfiglio, D., Andò, S. (2010). Farnesoid X Receptor, through the Binding with Steroidogenic Factor 1-responsive Element, Inhibits Aromatase Expression in Tumor Leydig Cells. *The Journal of Biological Chemistry*, 285(8), 5581–5593. **IF, Dilution used 1:100**
7. Campbell, B.K., Clinton, M., Webb, R. (2012) The Role of Anti-Müllerian Hormone (AMH) During Follicle Development in a Monovulatory Species (Sheep). *Endocrinology*; 153 (9): 4533-4543. **IHC-P**
8. Wilsher, S., Stansfield, F., Greenwood, R.E.S., Trethowan, P.D., Anderson, R.A., Wooding, F.B.W., Allen, W.R. (2013) Ovarian and placental morphology and endocrine functions in the pregnant giraffe (*Giraffa camelopardalis*). *Reproduction* 145 (6) 541-554. **WB, Dilution used 1:5000**
9. Pakarainen, T., Zhang, F-P., Nurmi, L., Poutanen, M., Huhtaniemi, I. (2005) Knockout of Luteinizing Hormone Receptor Abolishes the Effects of Follicle-Stimulating Hormone on Preovulatory Maturation and Ovulation of Mouse Graafian Follicles. *Molecular Endocrinology*; 19 (10): 2591-2602. **IHC-P, Dilution used 1:50**
10. Mlodawska, W., Slomczynska, M. (2010) Immunohistochemical localization of aromatase during the development and atresia of ovarian follicles in prepubertal horses. *Theriogenology*; Volume 74, Issue 9, Pages 1707-1712, ISSN 0093-691X. **IHC-P, Dilution used 1:50**
11. Amanatullah, Derek F., et al. (2017) Local Estrogen Axis in the Human Bone Microenvironment Regulates Estrogen Receptor-Positive Breast Cancer Cells. *Breast Cancer Research, BioMed Central*. **IHC-P, Dilution used 1:100**