**Supplementary Figure. 1. Distribution of serum AMH levels and AMH/tT values according to quartile age-groups.**
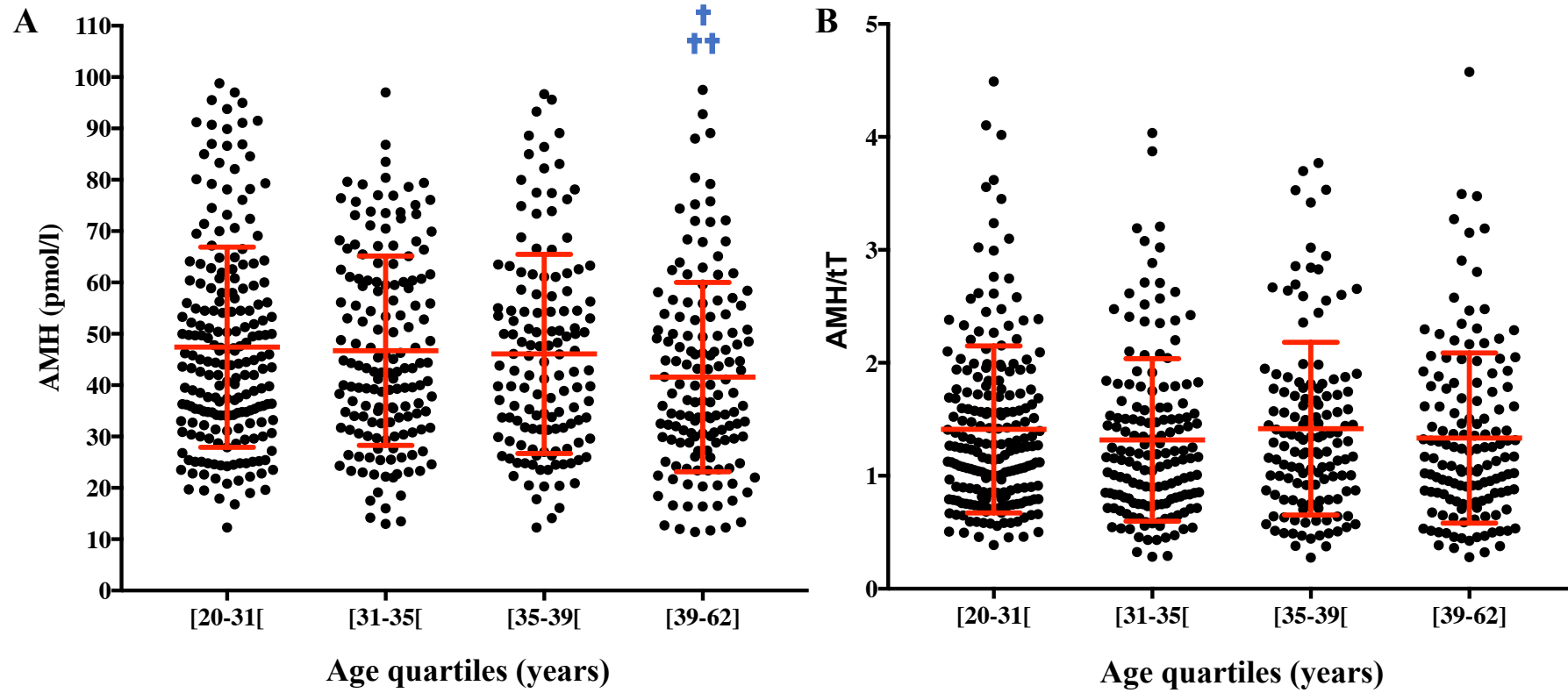
*† (p=0.02) adults aged between 39 and 62 years versus those between 20 and 31 years.*

*†† (p=0.02) adults aged between 39 and 62 years versus those between 31 and 35 years.*

*AMH/tT values were calculated using serum AMH and serum total T concentration values in ng/ml.*

**Supplementary Table 1. Age-specific serum AMH levels and AMH/tT values distribution.**

| | First quartile range [20-31[ | Second quartile range [31-35[ | Third quartile range [35-39[ | Fourth quartile range [39-62] |
|---|---|---|---|---|
| **AMH (pmol/l)** | | | | |
| **Minimum value** | 12.3 | 13 | 12.3 | 11.4 |
| **2.5% Percentile** | 19.5 | 15.8 | 16.7 | 12.1 |
| **First interquartile** | 33.4 | 32.6 | 31.3 | 28.9 |
| **Median** | 44.3 | 43.3 | 42.9 | 38.2 |
| **Third interquartile** | 58.6 | 60.7 | 57.5 | 53.1 |
| *97.5% Percentile* | 93.5 | 80.7 | 91.8 | 88.5 |
| **Maximum value** | 98.8 | 97 | 96.7 | 97.5 |
| **AMH/tT (ng.ml$^{-1}$/ng.ml$^{-1}$)** | | | | |
| **Minimum value** | 0.38 | 0.28 | 0.27 | 0.27 |
| **2.5% Percentile** | 0.49 | 0.42 | 0.40 | 0.36 |
| **First interquartile** | 0.85 | 0.79 | 0.86 | 0.80 |
| **Median** | 1.25 | 1.16 | 1.29 | 1.16 |
| **Third interquartile** | 1.75 | 1.60 | 1.75 | 1.76 |
| *97.5% Percentile* | 3.54 | 3.19 | 3.53 | 3.36 |
| **Maximum value** | 4.9 | 4.03 | 3.77 | 4.57 |

*AMH/tT values were calculated using serum AMH and serum total T concentration values in ng/ml*

**Supplementary Table 2. Relationship between hormone levels and semen parameters adjusted for serum inhibin B concentrations and age.**

| Hormone levels | | AMH (pmol/l) | AMH/tT (ng.ml⁻¹/ng.ml⁻¹) | FSH (IU/l) | LH (IU/l) | TT (nml/l) |
|---|---|---|---|---|---|---|
| FSH (IU/l) | $r'$ | **-0.09** | **-0.12** | | | |
| | $P$-value | **(0.02)** | **(0.001)** | – | – | – |
| LH (IU/l) | $r'$ | -0.02 | **-0.16** | **0.31** | | |
| | $P$-value | (0.48) | **(0.0001)** | **(0.0001)** | – | – |
| Total T (nmol/l) | $r'$ | -0.01 | **-0.57** | **0.11** | **0.26** | |
| | $P$-value | (0.62) | **(0.0001)** | **(0.03)** | **(0.0001)** | – |

**Semen parameters**

| | | AMH (pmol/l) | AMH/tT (ng.ml⁻¹/ng.ml⁻¹) | FSH (IU/l) | LH (IU/l) | TT (nml/l) |
|---|---|---|---|---|---|---|
| Semen volume (ml) | $r'$ | 0.03 | 0.01 | -0.08 | 0.04 | 0.05 |
| | $P$-value | (0.54) | (0.65) | (0.84) | (0.27) | (0.16) |
| Sperm concentration (million/ml) | $r'$ | **0.08** | **0.13** | -0.04 | -0.0 | **-0.09** |
| | $P$-value | **(0.02)** | **(0.001)** | (0.29) | (0.20) | **(0.01)** |
| Total sperm count (million/ejaculate) | $r'$ | **0.08** | **0.08** | -0.04 | 0.02 | -0.05 |
| | $P$-value | **(0.02)** | **(0.04)** | (0.27) | (0.60) | (0.19) |
| Progressive motility (%) | $r'$ | **-0.10** | **-0.07** | -0.07 | -0.05 | -0.04 |
| | $P$-value | **(0.007)** | **(0.07)** | (0.06) | (0.18) | (0.31) |

*The relationship between different variables was assessed by the partial correlation coefficient (r').*
*AMH/tT values were calculated using serum AMH and serum total T concentration values in ng/ml.*

**Supplementary Table 3. Relationship between hormone levels and semen parameters adjusted for serum FSH levels and age.**

| Hormone levels | | AMH (pmol/l) | AMH/tT (ng.ml$^{-1}$/ng.ml$^{-1}$) | LH (IU/l) | T (nmol/l) | Inhibin B (pg/ml) |
|---|---|---|---|---|---|---|
| LH (IU/l) | r' | -0.006 | **-0.13** | – | – | – |
| | P-value | (0. 87) | **(0.001)** | | | |
| Total T (nmol/l) | r' | 0.01 | **-0.55** | **0.23** | – | – |
| | P-value | (0.69) | **(0. 0001)** | **(0. 0001)** | | |
| Inhibin B (pg/ml) | r' | **0.22** | 0.12 | -0.03 | **0.10** | – |
| | P-value | **(0. 0001)** | **(0. 002)** | (0.36) | **(0. 008)** | |

| Semen parameters | | | | | | |
|---|---|---|---|---|---|---|
| Semen volume (ml) | r' | 0.05 | -0.008 | 0.04 | 0.06 | **0.08** |
| | P-value | (0.15) | (0.85) | (0.25) | (0.10) | **(0.02)** |
| Sperm concentration (million/ml) | r' | **0.11** | **0.14** | -0.04 | -0.07 | **0.14** |
| | P-value | **(0.004)** | **(0.001)** | (0.26) | (0.05) | **(0. 0001)** |
| Total sperm count (million/ejaculate) | r' | **0.11** | **0.09** | 0.03 | -0.02 | 0.16 |
| | P-value | **(0.003)** | **(0.01)** | (0.45) | (0.47) | **(0. 0001)** |
| Progressive motility (%) | r' | **-0.11** | **-0.08** | -0.03 | -0.03 | -0.01 |
| | P-value | **(0.004)** | **(0.04)** | (0.43) | (0.41) | (0.80) |

*The relationship between different variables was assessed by the partial correlation coefficient (r').*

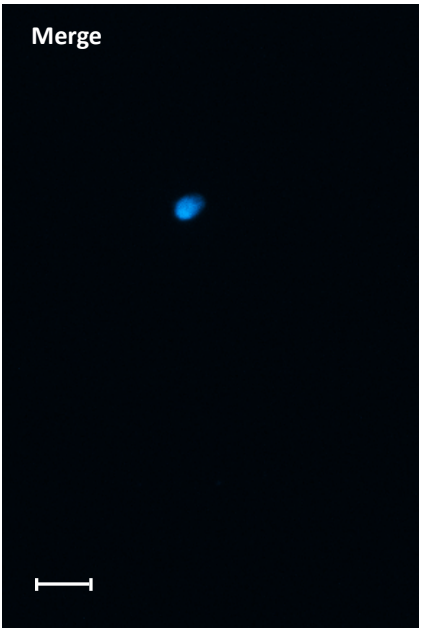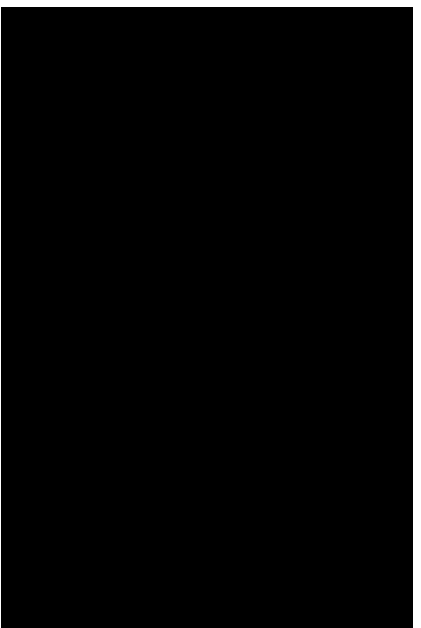*AMH/tT values were calculated using serum AMH and serum total T concentration values in ng/ml.*

**A**

α-tubulin
Dapi

AMH-R2
Dapi

Merge

**B**

AKAP4
Dapi

AMH-R2
Dapi

Merge

**C**

Dapi

Merge
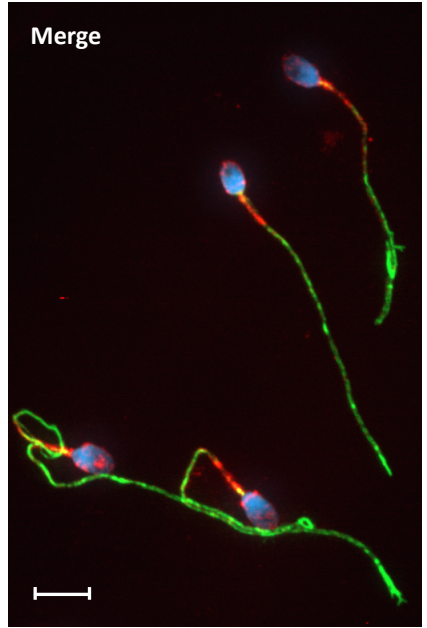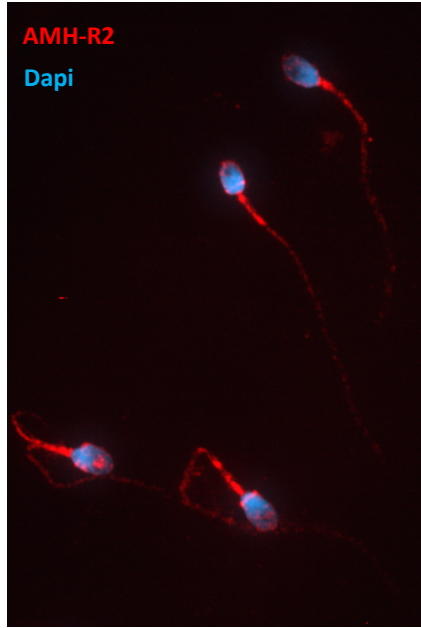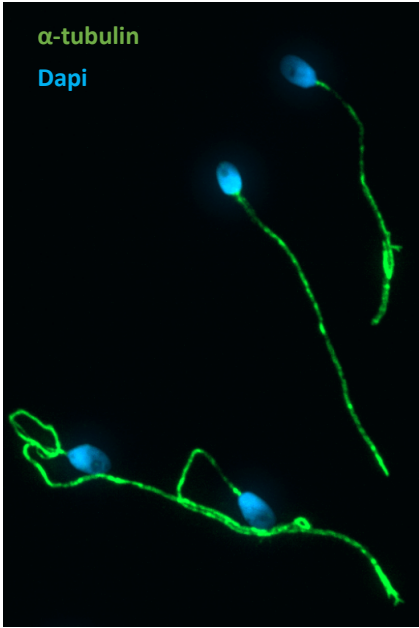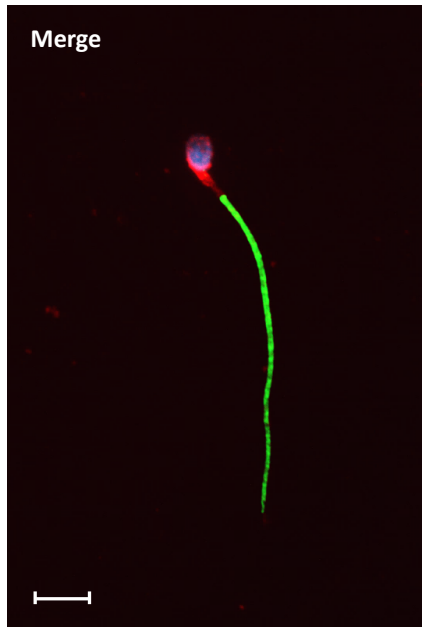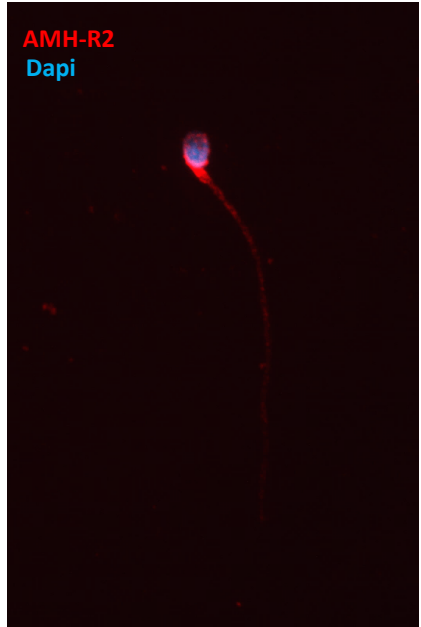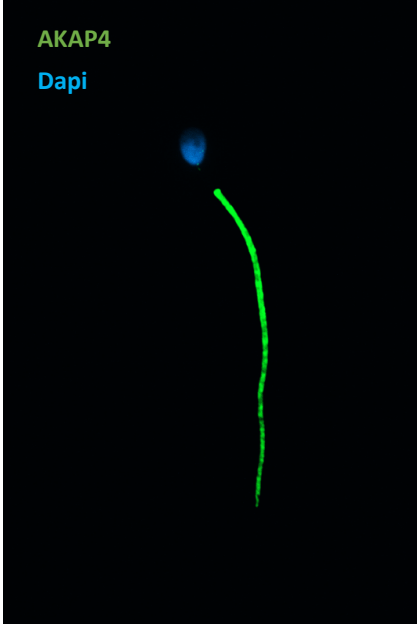
**Supplementary Figure 2. Immunolocalization of AMH-R2 (using the commercial Abcam antibody, ab197148) with α-tubulin or A-kinase anchor protein 4 (AKAP4) in human ejaculated spermatozoa.**

In human ejaculated spermatozoa, AMH-R2 (Red; anti-AMH-R2 antibody) is expressed in the head, the middle piece, and in the tail. (A) α-tubulin (green) is expressed in the middle piece, and in the tail. (B) AKAP4 (green) is expressed only in the tail. (C) Absence of staining without primary antibodies. Only secondary antibodies and DAPI nuclear counterstaining (blue) were used. Blue: DAPI, scale bars = 5 μm.
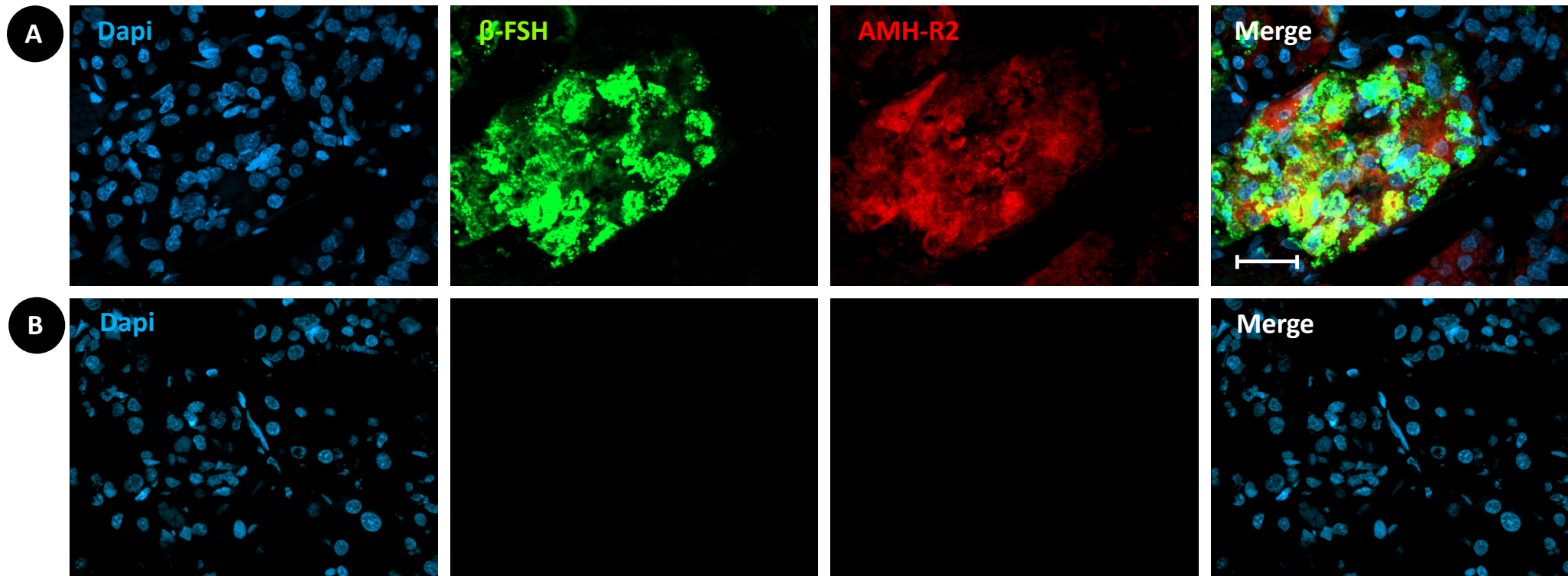
**Supplementary Figure 3. Immunolabeling for AMH-R2 (using the commercial Abcam antibody, ab197148) and β-FSH in longitudinal sections of adult human pituitary gland.**

(A) In the control adult human pituitary gland, AMH-R2 (Red; anti-AMH-R2 antibody) is expressed abundantly with β-FSH (green, anti-human β-FSH antibody) in the gonadotropic cells of the anterior lobe. (B) Absence of staining without primary antibodies. Only secondary antibodies and DAPI nuclear counterstaining (blue) were used. Blue: DAPI, scale bars = 25 μm.