**ANNEX 5 G: Adult Fish Ovary Histology Assessment Data** (Assessment sheet adapted from Bernet et al., 1999 by Van Dyk, JC & Marchand, MJ 2006)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ovary Quantitative Histological Assessment** | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Assessor:** UMC NIBAMUREKE | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Species:** | *O. mossambicus* (adult) | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Site:** | Laboratory Exposure study 2016 - 2018 | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | **Specimen no:** |  | **3** |  | **4** | | | **8** | | | **10** | | | **12** | | | **14** | | | **16** | | | |
| **RP** | **Functional Unit** | **Alterations** |  | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** |
| **CD** |  | Aneurysm/Haemorrhage | e.g. induce congestion | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular oedema | Lifting | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
| **Irp INDEX** | | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | |
| **RC** | Ovary | Inhibition of oogenesis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
|  | **Develop. stages** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (1) Oogonia | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Inter cellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
|  | (2) Oocytes | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations | e.g. germinal vesicle | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis / Atresia |  | **4** | **3** | **12** | **4** | **3** | **12** | **4** | **3** | **12** | **0** | **3** | **0** | **4** | **3** | **12** | **4** | **3** | **12** | **4** | **3** | **12** |
|  | Interstitial tissue | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations | e.g. vacuolation | **2** | **1** | **2** | **2** | **1** | **2** | **2** | **1** | **2** | **0** | **1** | **0** | **2** | **1** | **2** | **4** | **1** | **4** | **4** | **1** | **4** |
|  |  | Intercellular deposits | MMC | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | | **14** | | | **14** | | | **14** | | | **0** | | | **14** | | | **16** | | | **16** | | | |
| **PC** | **Develop. stages** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (1) Oogonia | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | (2) Oocytes | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Interstitial tissue | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Tunica | Thickening |  | **0** | **2** | **0** | **0** | **2** | **0** | **2** | **2** | **4** | **0** | **2** | **0** | **0** | **2** | **0** | **2** | **2** | **4** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **4** |  |  | **0** |  |  | **0** |  |  | **4** |  |  | **0** |
| **I** |  | Exudate |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Activation of RES |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Infiltration | Leucocytes (MNL) - lymphocytes | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  |  | Granulocytes | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
| **T** |  | Benign |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Malignant |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | |
| **IS** |  | Intersex |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
|  |  |  | **Iorg INDEX:** |  |  | **4** |  |  | **14** |  |  | **18** |  |  | **0** |  |  | **14** |  |  | **20** |  |  | **16** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ovary Quantitative Histological Assessment** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Assessor:** UMC NIBAMUREKE | | | | | | | | | | | | | | | | | | | | | | | | |
| **Species:** | *O. mossambicus* (adult) | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Site:** | Laboratory Exposure study 2016 - 2018 | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Specimen no:** | | | | **17** | | | **18** | | | **22** | | | **23** | | | **26** | | | **27** | | | **28** | | |
| **RP** | **Functional Unit** | **Alterations** |  | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** |
| **CD** |  | Aneurysm/Haemorrhage | e.g. induce congestion | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular oedema | Lifting | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **2** | **1** | **2** | **0** | **1** | **0** |
| **Irp INDEX** | | | | **0** | | | **0** | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **2** |  |  | **0** |
| **RC** | Ovary | Inhibition of oogenesis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
|  | **Develop. stages** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (1) Oogonia | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Inter cellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
|  | (2) Oocytes | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations | e.g. germinal vesicle | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis / Atresia |  | **2** | **3** | **6** | **4** | **3** | **12** | **4** | **3** | **12** | **2** | **3** | **6** | **2** | **3** | **6** | **4** | **3** | **12** | **2** | **3** | **6** |
|  | Interstitial tissue | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations | e.g. vacuolation | **2** | **1** | **2** | **2** | **1** | **2** | **4** | **1** | **4** | **2** | **1** | **2** | **2** | **1** | **2** | **2** | **1** | **2** | **2** | **1** | **2** |
|  |  | Intercellular deposits | MMC | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | | **8** | | | **14** | | |  |  | **16** |  |  | **8** |  |  | **8** |  |  | **14** |  |  | **8** |
| **PC** | **Develop. stages** |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (1) Oogonia | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | (2) Oocytes | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Interstitial tissue | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Tunica | Thickening |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
| **I** |  | Exudate |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Activation of RES |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Infiltration | Leucocytes (MNL) - lymphocytes | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  |  | Granulocytes | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
| **T** |  | Benign |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Malignant |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | | **0** | | | **0** | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
| **IS** |  | Intersex |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
|  |  |  | **Iorg INDEX:** |  |  | **8** |  |  | **14** |  |  | **16** |  |  | **8** |  |  | **8** |  |  | **16** |  |  | **8** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ovary Quantitative Histological Assessment** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Assessor:** UMC NIBAMUREKE | | | | | | | | | | | | | | | | | | | | | | | | |
| **Species:** | *O. mossambicus* (adult) | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Site:** | Laboratory Exposure study 2016 - 2018 | | |  |  |  |  | | | | | | | | | | | | | | | | | |
| **Specimen no:** | | | | **30** | | | **32** | | | **33** | | | **34** | | | **36** | | | **38** | | | **39** | | |
| **RP** | **Functional Unit** | **Alterations** |  | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** |
| **CD** |  | Aneurysm/Haemorrhage | e.g. induce congestion | **0** | **1** | **0** | **2** | **1** | **2** | **2** | **1** | **2** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular oedema | Lifting | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
| **Irp INDEX** | | | |  |  | **0** | **2** | | | **2** | | | **0** | | | **0** | | | **0** | | | **0** | | |
| **RC** | Ovary | Inhibition of oogenesis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **4** | **3** | **12** | **0** | **3** | **0** | **0** | **3** | **0** |
|  | **Develop. stages** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (1) Oogonia | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Inter cellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
|  | (2) Oocytes | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations | e.g. germinal vesicle | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis / Atresia |  | **2** | **3** | **6** | **4** | **3** | **12** | **4** | **3** | **12** | **4** | **3** | **12** | **6** | **3** | **18** | **4** | **3** | **12** | **2** | **3** | **6** |
|  | Interstitial tissue | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations | e.g. vacuolation | **2** | **1** | **2** | **4** | **1** | **4** | **2** | **1** | **2** | **4** | **1** | **4** | **2** | **1** | **2** | **4** | **1** | **4** | **2** | **1** | **2** |
|  |  | Intercellular deposits | MMC | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **2** | **3** | **6** | **0** | **3** | **0** | **0** | **3** | **0** | **2** | **3** | **6** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | |  |  | **8** | **22** | | | **14** | | | **16** | | | **38** | | | **16** | | | **8** | | |
| **PC** | **Develop. stages** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (1) Oogonia | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | (2) Oocytes | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Interstitial tissue | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Tunica | Thickening |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
| **I** |  | Exudate |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Activation of RES |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Infiltration | Leucocytes (MNL) - lymphocytes | **0** | **2** | **0** | **2** | **2** | **4** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  |  | Granulocytes | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **4** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
| **T** |  | Benign |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Malignant |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | |  |  | **0** | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | |
| **IS** |  | Intersex |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
|  |  |  | **Iorg INDEX:** |  |  | **8** |  |  | **28** |  |  | **16** |  |  | **16** |  |  | **38** |  |  | **16** |  |  | **8** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ovary Quantitative Histological Assessment** | | | | | | | | | | | | | | | | | | | | | | |
| **Assessor:** UMC NIBAMUREKE | | | | | | | | | | | | | | | | | | | | | | |
| **Species:** | *O. mossambicus* (adult) | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Site:** | Laboratory Exposure study 2016 - 2018 | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Specimen no:** | | | | **44** | | | **45** | | | **47** | | | **49** | | | **50** | | | **51** | | | |
| **RP** | **Functional Unit** | **Alterations** |  | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** | **Score** | **IF** | **Index** |
| **CD** |  | Aneurysm/Haemorrhage | e.g. induce congestion | **0** | **1** | **0** | **0** | **1** | **0** | **2** | **1** | **2** | **2** | **1** | **2** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular oedema | Lifting | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
| **Irp INDEX** | | | | **0** | | | **0** | | | **2** | | | **2** | | | **0** | | | **0** | | | |
| **RC** | Ovary | Inhibition of oogenesis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **4** | **3** | **12** |
|  | **Develop. stages** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (1) Oogonia | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Inter cellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
|  | (2) Oocytes | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Intercellular deposits |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations | e.g. germinal vesicle | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis / Atresia |  | **2** | **3** | **6** | **2** | **3** | **6** | **4** | **3** | **12** | **4** | **3** | **12** | **2** | **3** | **6** | **4** | **3** | **12** |
|  | Interstitial tissue | Structural alterations |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Plasma alterations | e.g. vacuolation | **0** | **1** | **0** | **2** | **1** | **2** | **2** | **1** | **2** | **2** | **1** | **2** | **2** | **1** | **2** | **4** | **1** | **4** |
|  |  | Intercellular deposits | MMC | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Nuclear alterations |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Atrophy |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Necrosis |  | **0** | **3** | **0** | **0** | **3** | **0** | **2** | **3** | **6** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | | **6** | | | **8** | | | **20** | | | **14** | | | **8** | | | **28** | | | |
| **PC** | **Develop. stages** |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |
|  | (1) Oogonia | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | (2) Oocytes | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Interstitial tissue | Hypertrophy |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Hyperplasia |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  | Tunica | Thickening |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
| **I** |  | Exudate |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Activation of RES |  | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** | **0** |
|  |  | Infiltration | Leucocytes (MNL) - lymphocytes | **0** | **2** | **0** | **0** | **2** | **0** | **2** | **2** | **4** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  |  | Granulocytes | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **4** |  |  | **0** |  |  | **0** |  |  | **0** |
| **T** |  | Benign |  | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** | **0** | **2** | **0** |
|  |  | Malignant |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | **0** | | | |
| **IS** |  | Intersex |  | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** | **0** | **3** | **0** |
| **Irp INDEX** | | | |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |
|  |  |  | **Iorg INDEX:** |  |  | **6** |  |  | **8** |  |  | **26** |  |  | **16** |  |  | **8** |  |  | **28** |