| Batches          | Experiments  | Days of XdU<br>injections in respect<br>to training days (Dn) | XdU<br>dose<br>(mg/kg) | Groups size   | Duration of training                        | Time of sacrifice<br>in respect to the<br>start of training |
|------------------|--|---|------------------------|---|---|---|
| Results section: | Specific phase of spatial learning induces apoptotic cell death in the dentate gyrus                                   |   |                        |   |   |   |
| 1                | Influence of spatial learning on cell death in the dentate gyrus   | BrdU on D1-D4   | 50                     | Control = 7<br>Yoked = 6<br>Learning = 8  | 8 days                                      | 9 <sup>th</sup> day   |
| 2                | Influence of cue learning on cell death in the dentate gyrus   |   |                        | Control = 5<br>Yoked = 5<br>Learning = 5<br>Visible PF = 5                      | 6 days                                      | 7 <sup>th</sup> day   |
| 3                | Influence of the different phases of spatial learning on cell death in the dentate gyrus                               | BrdU on D1-D3   | 50                     | Control = 8<br>Learning = 10  | 3 days                                      | 3 <sup>rd</sup> day   |
| 4                | u  | BrdU on D1-D3   | 50                     | Control = 9<br>Learning = 15  | 4 days                                      | 4 <sup>th</sup> day   |
| 5                | u  | BrdU on D1-D3   | 50                     | Control = 9<br>Learning = 14  | 5 days                                      | 5 <sup>th</sup> day   |
| 6                | <i>u</i>   | BrdU on D1-D3   | 50                     | Control = 8<br>Learning = 13  | 6 days                                      | 6 <sup>th</sup> day   |
| Results section: | Spatial learning promotes the death of new   | wborn neurons within a ce                                     | rtain time windo       | )w  |   |   |
|                  | Identification of the time window sensitive to<br>learning-induced cell death  | BrdU on - D3  | 100                    | Control = 8<br>Learning = 6   | 5 days                                      | 5 <sup>th</sup> day   |
| 7b               | ű  | BrdU on - D4  | 100                    | Control = 5<br>Learning = 5   | 5 days                                      | 5 <sup>th</sup> day   |
| Results section: | Learning-induced apoptosis is critical for spatial memory  |   |                        |   |   |   |
| 8                | Influence of zVAD on spatial learning  | BrdU on D1-D3   | 50                     | Control Veh = 9<br>Learning Veh = 12<br>Control zVAD = 10<br>Learning zVAD = 12 | 6 days +<br>1 day probe test<br>& cued test | 7 <sup>th</sup> day   |
| 9                | Analysis of non specific effect of zVAD on spatial learning  |   |                        | Learning Veh = 8<br>Learning zVAD = 10  | 6 days +<br>1 day probe test                | 7 <sup>th</sup> day   |
| 10               | Analysis of non specific effect of zVAD on<br>hippocampal neurophysiological<br>responsiveness                         |   |                        | Control Veh = 3<br>Control zVAD = 4   |   |   |
| Results section: | Learning-induced increases in apoptosis, cell proliferation and survival of newborn neurons are interrelated processes |   |                        |   |   |   |
| 11               | Analysis of relationship between learning-<br>induced increase in cell survival and cell<br>death                      | ldU on - D7<br>CldU on - D3                                   | 57.65<br>42.76         | Control Veh = 5<br>Learning Veh = 9<br>Control zVAD = 6<br>Learning zVAD = 8    | 6 days                                      | 7 <sup>th</sup> day   |