X-gal histochemistry
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I've always fixed e15.5 in 4% paraformaldehyde/pbs for about an hour or two and then washed them in pbs. you can keep the brains stored in a solution of 200 mls pbs, 150 mls ethyleneglycol, 150 mls glycerol at -20 for years after that, or continue withsectioning right away. if you just want to look at the general lacz pattern, it's probably best to cut the complete brain at 50 or 100 microns with a vibrating blade microtome (leica) and then stain the complete set of sections. depending on how much structures are stained, it's fairly easy to then rearrange the sections sequentially on a slide and analyse them. briefly: embed the brain in 5% low melting point agarose, carve out a block in the desired orientation, notch one corner, so that you know where left and right are, and section in pbs. Two spatulas are best to provide some support when moving the sections around. keep in mind that identifying structures in sagittal sections is more precise, as the orientation is more clearly defined, but then again, there's not so much literature available. i would include both orientations in any analysis. 15.5 may even be old enough so that you could use half a brain for coronal and the other half for sagittal sections. whatever, stain the sections in a solution of 10 mM tris hcl ph 7.3, 0.005% na-desoxycholate, 0.01% nonidet p40, 5mM K4FeCN6, 5mM K3FeCN6, 2mM MgCl2 and 0.8mg/ml x-gal (my stock solution for x-gal was 40 mg/ml in Dimethylformamide).

I guess pbs based solutions should principally work too, but somehow they explicitly did not work for me at ucsf. i've usually left the sections overnight at 37 degrees, avoiding stacked sections, as this may lead to a bit of false background, if unstained tissue is tightly apposedto a very strongly stained area. finally, wash twice with pbs, and transfer to 50% glycerol/1x pbs. this is the solution i used for mounting the sections on slides. they keep fine if stored at 4 degrees, and after coverslipping you can seal the thing off with nailpolish, although sooner rather than later the glycerol will find it's way through. it's best to photograph the lot and then store the slides horizontally. oh yes, and if you do intend to take photos it's worth while to clean
the 50% glycerol solution by pressing it through a filter, otherwise a lot of junk may be contained and it may end up right on top of your favorite section.