In	
  current	
  clamp	
  mode	
  with	
  a	
  model	
  cell,	
  deliver	
  small	
  current	
  steps	
  and	
  notice	
  the	
  temporal	
  aspects	

and	
  steady
-‐state	
  value	
  of	
  the	
  voltage	
  response.	
  	

	

2.	
  Investigate	
  the	
  additional	
  impact	
  of	
  voltage
-‐gated	
  conductances.
	

In	
  current	
  clamp	
  mode	
  with	
  a	
  hair	
  cell,	
  deliver	
  small	
  current	
  step

Preparation	
  of	
  hair	
  cells
	
  (Holt	
  and	
  Eatock	
  1995,	
  based	
  on	
  Lewish
	
  and	
  Hudspeth	
  1983
)
	

1.	
  	
  	
  	
  	
  Dissect	
  out	
  frog	

saccule	
  in	
  Standard	
  Frog	
  Solution	
  (High	
  Ca
2
+
)
	

	

2.	
  	
  	
  	
  	
  Put	
  tissue	
  in	
  protease	
  XXIV	
  (50
	

μg/ml	
  in	
  low
-‐Ca2+
	
  solution)	
  for	
  10	
  minutes
	

	

3.	
  	
  	
  	
  	
  Remove	
  Otolithic	
  Membrane
	

	

4.	
  	
  	
  	
  	
  Switch	
  into	
  papain	
  (500
	
  μg/ml	
  papain	
  and	
  300
	

μg/ml	
  L
-‐cystein
e
	
  in	
  low	
  Ca2+
	
  solution)	
  for	
  20	
  minutes
	

	

5.	
  	
  	
  	
  	
  Switch	
  into	
  bovine	
  serum	
  albumin	
  (500	
  μg/ml	
  in	
  low	
  Ca
2
+
)	
  for	
  20	
  minutes
	

	

6.	
  	
  	
  	
  	
  Fill	
  recording	
  chamber	
  with	
  low	
  Ca2+
	
  and	
  mechanically	
  dissociate	
  the	
  hair	
  cells	
  using	
  an	
  eyelash
	

	

7.	
  	
  	
  	
  	
  Let	
  settle	
  for	
  10	
  minutes,	
  then	
  look	
  to	
  see	
  what	
  you’ve	
  got
	

	

8.	
  	
  	
  	
  	
  Switch	
  back	
  to	
  high	
  Ca
2
+
	
  solution	
  for	
  recording.