

Visual Guide to the Mouse Estrous Cycle

Improve Timed-Mating Performance

Visual Quick Guide: Females in proestrus or estrus can be identified quickly and easily by the appearance of their external genitalia. These females are likely to be receptive to mating when paired with sexually mature males. The presence of a copulatory plug can be used to verify that mating has occurred. Stage of the estrous cycle in mice can be determined by cytology or by visual examination of the external genitalia.

Proestrus*

- Very swollen
- Pink
- Moist
- Wrinkling

Estrus*

- Less swollen
- Less pink
- Less moist
- Wrinkling

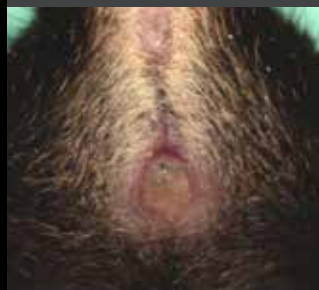
Metestrus

- Not swollen
- Not pink
- Dry
- No wrinkling

Diestrus

- Not swollen
- Not pink
- Dry
- No wrinkling

* Stages most receptive to mating



Byers SL, Wiles MV, Dunn SL, Taft RA. Mouse estrous cycle identification tool and images. *PLoS One* 2012; 7(4):e35538. [PMID:22514749]

JAX® Mice Pup Appearance by Age

The approximate age of mouse pups can be determined by their physical attributes during the first two weeks of life.

Examples of the developmental stages of albino, agouti, and black pups are shown.

C57BL/6J	C3H/HeJ	BALB/cJ
000664	000659	000651
black	agouti	albino

Days of Age

Days of Age	Characteristics	C57BL/6J (black)	C3H/HeJ (agouti)	BALB/cJ (albino)
0	<ul style="list-style-type: none"> Blood red Possible milk spot 			
1	<ul style="list-style-type: none"> Lighter color red Milk spot present 			
2	<ul style="list-style-type: none"> Ears appear as nubs Pigment may start to appear in some strains 			
3	<ul style="list-style-type: none"> Ear flap starting to come away from head (one or both) 			
4	<ul style="list-style-type: none"> Ears fully developed, completely off head, some starting to go towards back Increasing skin color 			
5	<ul style="list-style-type: none"> Ears are fully back Skin appears much thicker with more color density to skin 			
6	<ul style="list-style-type: none"> Milk spot disappearing or gone Colored fuzz appears behind ears or on neck 			
7	<ul style="list-style-type: none"> Colored fuzz starting to cover pup 			
8	<ul style="list-style-type: none"> Belly begins to show fur 			
9	<ul style="list-style-type: none"> Fur is now thicker Females may show nipples (there are five pairs of mammaries) 			
10	<ul style="list-style-type: none"> Fur growth is complete Pups are more active 			
11	<ul style="list-style-type: none"> Teeth are beginning to erupt Eyes start to open 			
12	<ul style="list-style-type: none"> Eyes are open Pups begin to nibble solid food 			
13	<ul style="list-style-type: none"> Pups increase solid food intake 			
14	<ul style="list-style-type: none"> Pups increase in weight and size, eating more solid food 			