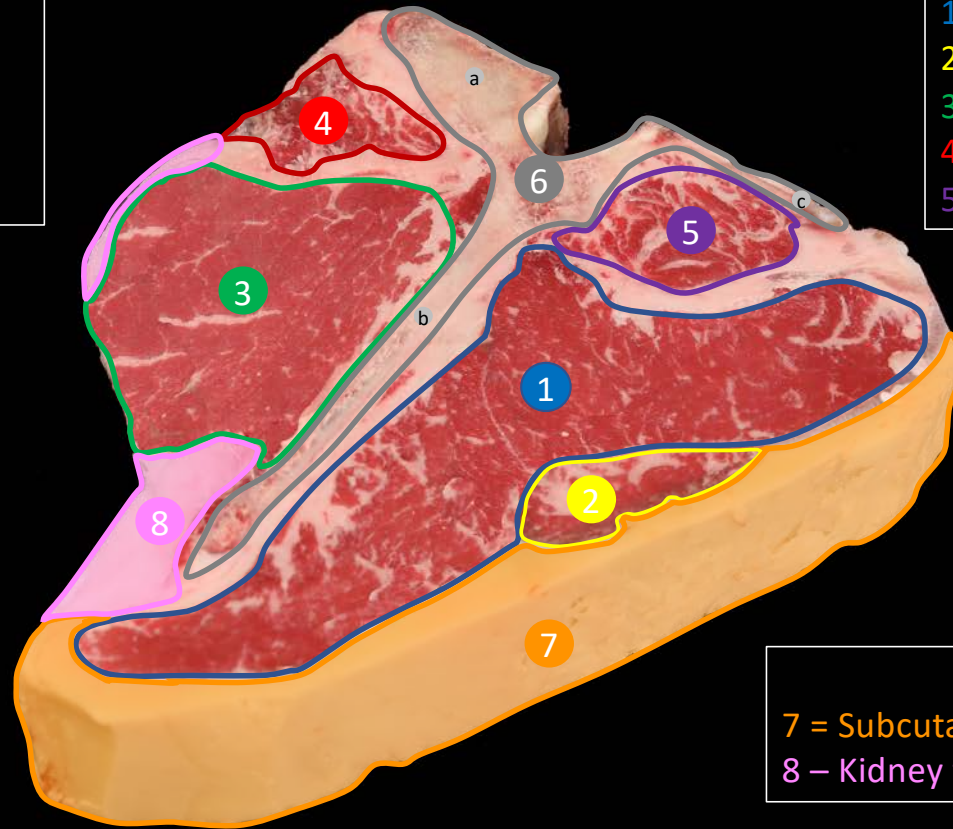


# Beef Loin, Porterhouse Steak

## Bone ID

- 6 = Lumbar vertebra
- a. Body
- b. Transverse process
- c. Spinous process



## Muscle ID

- 1 = M. longissimus lumborum
- 2 = M. gluteus medius
- 3 = M. psoas major
- 4 = M. psoas minor
- 5 = M. multifidus dorsi

## Fat ID

- 7 = Subcutaneous fat
- 8 = Kidney fat

# Beef Chuck, 7-Bone Roast/ Steak

## Bone ID

- 15 = scapula
- 16 = rib
- 17 = thoracic vertebra spinous process
- 18 = Nuchal ligament



## Muscle ID

- 1 = *M. infraspinatus*
- 2 = *M. supraspinatus*
- 3 = *M. subscapularis*
- 4 = *M. serratus ventralis thoracis*
- 5 = *M. Longissimus thoracis*
- 6 = *M. Multifidus dorsi*
- 7 = *M. trapezius*
- 8 = *M. rhomboideus*
- 9 = *M. splenius*
- 10 = *M. complexus*
- 11 = *M. spinalis dorsi*
- 12 = *M. Triceps brachii (long hd)*
- 13 = *M. teres major*
- 14 = *M. intercostalis interni*

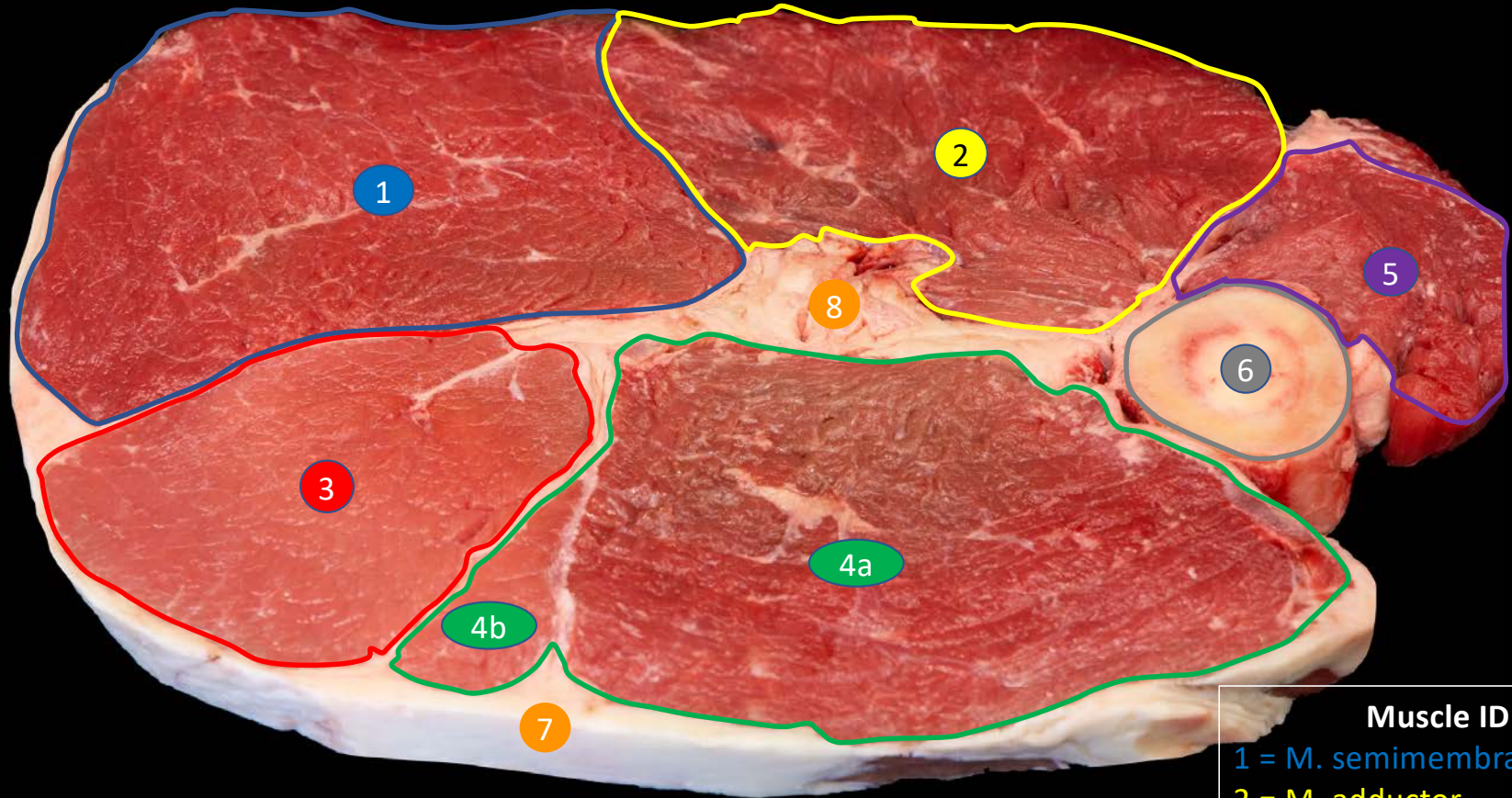
## Fat ID

- 19 = Subcutaneous fat
- 20 = Intermuscular (seam) fat
- 21 = Intramuscular (marbling) fat

**Bone ID**

6 = femur

# Beef Round, Round Steak



**Fat ID**

7 = Subcutaneous fat

8 – Intermuscular (seam) fat

**Muscle ID**

1 = M. semimembranosus

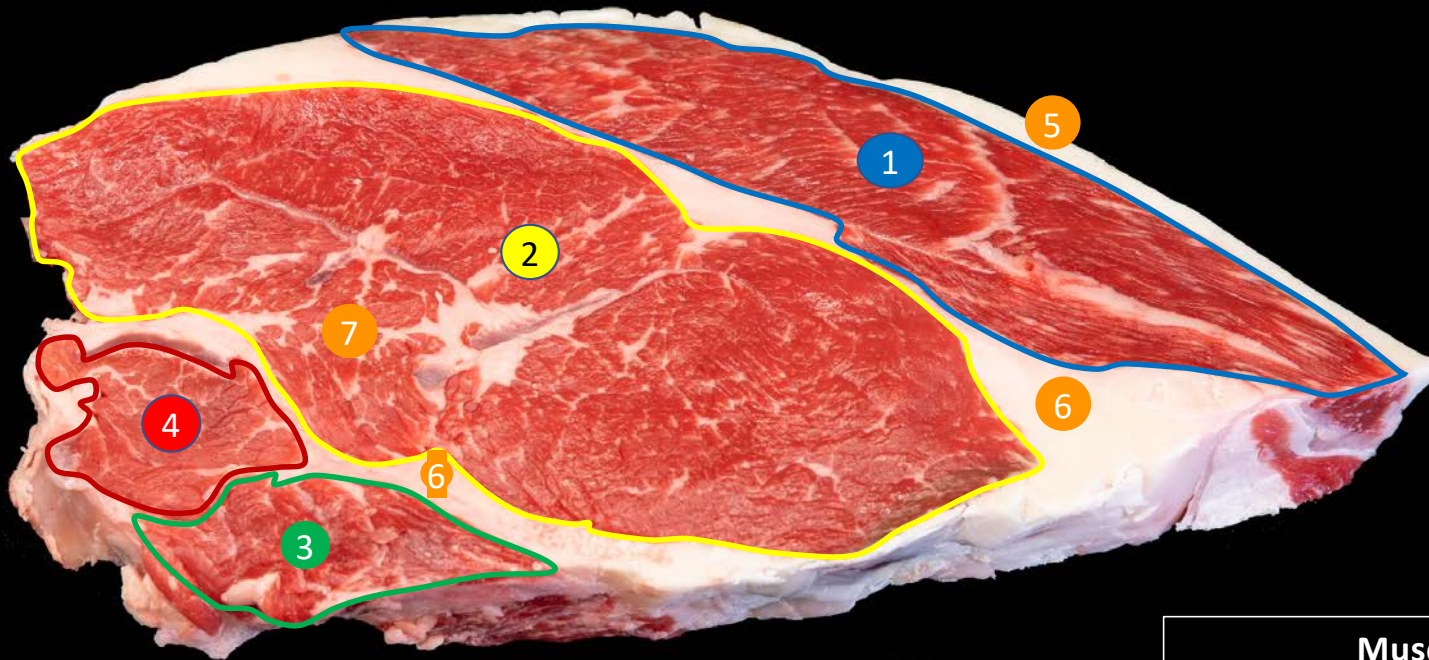
2 = M. adductor

3 = M. semitendinosus

4 = M. biceps femoris

5 = M. vastus intermedius

# Beef Loin, Top Sirloin Steak, Boneless



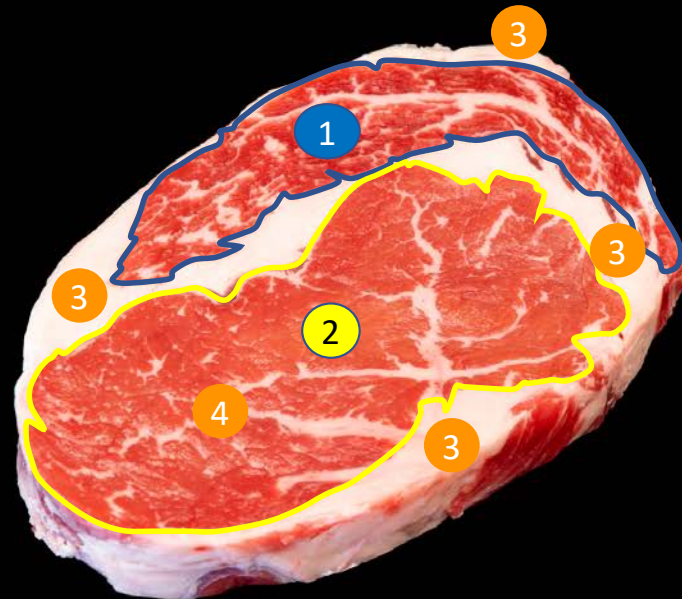
## Fat ID

- 5 = Subcutaneous fat
- 6 = Intermuscular (seam) fat
- 7 = Intramuscular (marbling) fat

## Muscle ID

- 1 = M. biceps femoris
- 2 = M. gluteus medius
- 3 = M. gluteus profundus
- 4 = M. gluteus accessorius

# Beef Rib, Ribeye Steak, Boneless



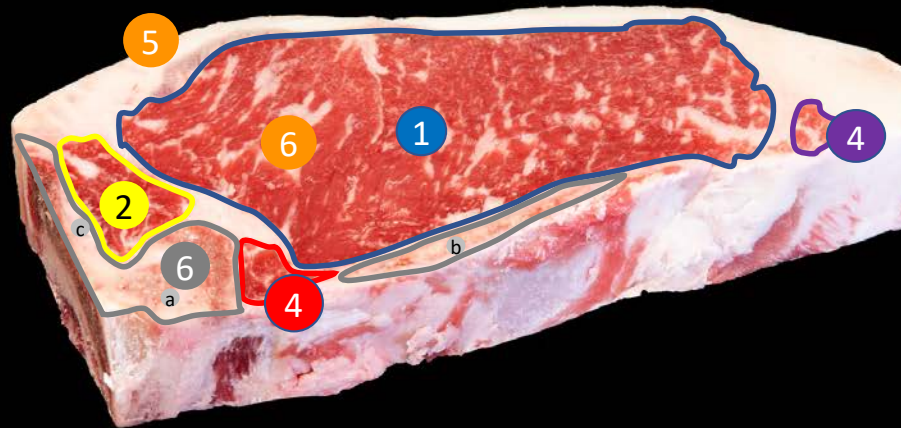
## Fat ID

- 3 = Intermuscular (seam) fat
- 4 = Intramuscular (marbling) fat

## Muscle ID

- 1 = *M. spinalis thoracis*
- 2 = *M. longissimus thoracis*

# Beef Loin, Top Loin Steak



## Fat ID

- 5 = Subcutaneous fat
- 6 = Intramuscular (marbling) fat

## Bone ID

- 6 = Lumbar vertebra
  - a. Body
  - b. Transverse process
  - c. Spinous process

## Muscle ID

- 1 = *M. longissimus lumborum*
- 2 = *M. multifidi lumborum*
- 3 = *M. Intertransversales colli*
- 4 = *M. iliocostalis*

## Beef Muscles Ranked as “Tender”

Rank	Muscle	Shear Force, lbs.	Tenderness Category	Present in Retail Cuts
1	Psoas major	6.75	Tender	
2	Infraspinatus	7.05	Tender	
3	Spinalis dorsi	7.12	Tender	
4	Serratus ventralis	7.81	Tender	
5	Multifidus dorsi	8.03	Tender	
6	Subscapularis	8.27	Tender	
7	Teres major	8.46	Tender	



### Beef Muscles Ranked as “Intermediate”

Rank	Muscle	Shear Force, lbs.	Tenderness Category	Present in Retail Cuts
8T	Rectus femoris	8.74	Intermediate	
8T	Tensor fascia latae	8.74	Intermediate	
10	Biceps brachii	8.76	Intermediate	
11	Complexus	8.79	Intermediate	
12	Longissimus lumborum	8.95	Intermediate	
13	Obliquus internus abdominus	8.96	Intermediate	
14	Gracillis	9.15	Intermediate	
15	Longissimus thoracis	9.25	Intermediate	
16	Vastus medialis	9.43	Intermediate	
17	Triceps brachii	9.65	Intermediate	
18	Gastrocnemius	9.66	Intermediate	
19	Rectus abdominis	9.59	Intermediate	
20	Quadriceps femoris	9.87	Intermediate	
21	Semimembranosus	9.93	Intermediate	
22	Adductor	10.07	Intermediate	



### Beef Muscles Ranked as “Tough”

Rank	Muscle	Shear Force, lbs.	Tenderness Category	Present in Retail Cuts
23	Biceps femoris	10.30	Tough	
24	Obliquus externus abdominis	10.35	Tough	
25	Supraspinatus	10.38	Tough	
26T	Semitendinosus	10.42	Tough	
26T	Latissimus dorsi	10.42	Tough	
28	Splenius	10.44	Tough	
29	Superficial pectoral	10.70	Tough	
30	Deep pectoral (pectoralis profundus)	10.86	Tough	
31T	Gluteus medius	10.87	Tough	
31T	Vastus lateralis	10.87	Tough	
33T	Brachialis	11.13	Tough	
33T	Trapezius	11.13	Tough	
35	Deltoideus	11.17	Tough	
36	Rhomboideus	11.29	Tough	
37	Longissimus dorsi (chuck)	11.34	Tough	
38	Extensor carpi radialis	11.68	Tough	
39	Cutaneous-omo brachialis	12.79	Tough	
40	Brachiocephalicus omotransversarius	14.69	Tough	