

ESTABLISHING A CETACEAN TISSUE BANK IN TÜRKİYE (CetaBankTR)



*Accord sur la Conservation des Cétacés de la
Mer Noire, de la Méditerranée et de la zone
Atlantique adjacente*



*Agreement on the Conservation of Cetaceans
of the Black Sea, Mediterranean Sea and
contiguous Atlantic Area*

Establishing a cetacean tissue bank in Türkiye (CetaBankTR)

Final report

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January 2025

Establishing a cetacean tissue bank in Türkiye

Study funded by:

ACCOBAMS Secretariat
Jardin de l'UNESCO
Les Terrasses de Fontvieille
MC 98000 Monaco

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Reference of the study:

N° 04/2024/FAC

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Photography credit:

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This report should be quoted as:

Tonay, A.M., Dede, A., Özsandıkçı, U., Aytemiz Danyer, I., Danyer, E., Amaha Öztürk, A., Öztürk, B. 2025.
Establishing a cetacean tissue bank in Türkiye. MoU ACCOBAMS N°04/2024/FAC, 17pp.

1. INTRODUCTION

The project "Establishing a cetacean tissue bank in Türkiye" is carried out in line with the ACCOBAMS Black Sea Cetacean Conservation Plan (Resolution 3.11), particularly actions 15c and 15d. The project focuses on addressing the gap in this provision by implementing Activity 15c, "Establishing Black Sea cetacean tissue bank(s) gathering samples from stranded and bycaught cetaceans." In addition, the project is directly implementing the guidelines for the establishment of a system of tissue banks indicated in Resolution 3.9.

2. DESCRIPTION OF THE PROJECT

The project is provide support for the establishment of a tissue bank of cetacean samples collected from all the coasts of Türkiye in Marine Mammals Laboratory at the basement of Faculty of Aquatic Sciences, Istanbul University with the partnership of an NGO, Turkish Marine Research Foundation (TUDAV). In short, their sampling and storage capacity has been increased by providing appropriate conditions.

Tissue samples collected from stranded and incidentally captured cetaceans have been and will be used to gain further information on cetacean mortality in the region. Other areas of studies, such as functional anatomy, physiology (including respiratory and diving physiology), life history, toxicology, pathology (including infectious diseases), population structure, and trophic relationships, will potentially be carried out by the leading partners as well as collaborating national/international researchers.

The importance of establishing a tissue bank in Türkiye, which is the only country among the ACCOBAMS member states that is bordered by both the Mediterranean and Black Seas, will contribute significantly to the monitoring and conservation efforts of cetaceans living in both basins.

3. ACTIVITIES

3.1. Procurement and capacity building

The project is scheduled from January 31, 2023, to January 31, 2025. Project activities were started with the purchase of a freezer of large capacity, supporting -80°C regime (Thermo Scientific FDE40086FV) needed for adequate storage of tissue samples. As an emergency power supply, it was connected to the faculty's UPS system.



Figure 1. Marine Mammals Laboratory at the Faculty of Aquatic Sciences, Istanbul University



Figure 2. -80°C freezer

3.2. Networking

The existing IU/TUDAV Cetacean Stranding Network is operational during the project. For promoting the new facility and its contribution, an official letter was written to the Ministry of Agriculture and Forestry General Directorate of Fisheries and Aquaculture, asking district organizations to report strandings and take samples. Supported by the United Nations (UN) Food and Agriculture Organization (FAO) General Fisheries Commission for the Mediterranean (GFCM), the bycatch project MTF/INT/943/MUL BABY 31 collaborated to sample cetacean fishing nets. Database and reporting have been compiled. Turkish veterinary experts in marine animals conducted telenecropsy efforts throughout the project, both in the field and in the laboratory, as network capacities increased.

3.3. Necropsies and sampling

Tissue samples were collected from a total of 41 individuals during the project (Figure 3). During the necropsy studies carried out in the laboratory during the project, samples from all tissues and organs of three common dolphin and a harbour porpoise were stored at -80°C.



Figure 3. A photo from the postmortem examination on a stranded common dolphin

In addition, to the project activities, within the scope of the rebuilding of the marine mammal laboratory of the Istanbul University, previous genetic tissue samples collected since 1993 were, specifically label updated and re-stored within the scope of the project, with updated information on their labels.

3.4. Collaborations

As an international collaboration, MoUs was signed with Università Politecnica Delle Marche, Italy for the studies titled “Using historical and modern DNA to solve the phylogeography of false killer whales (*Pseudorca crassidens*) in eastern Atlantic Ocean and Mediterranean Sea” and “Population structure and genetic diversity of Risso’s dolphin (*Grampus griseus*, Cuvier 1812) in Mediterranean Sea and Atlantic Ocean” and the DNA obtained from the tissues stored in the tissue bank was delivered to them.

4. DIFFICULTIES ENCOUNTERED AND MEASURES TAKEN TO OVERCOME PROBLEMS

The main difficulty was that the project budget could not be received in a single payment. Although most of it could be received at the beginning of the project with the help of the Secretariat, it would have been of great benefit for the project to receive the remaining amount at the beginning.

In addition, the changes made in the implementation due to changes in the foreign currency exchange rate, the allocation of the entire budget for -80°C freezer resulted in the inability to purchase the equipment (necropsy table, portable morgue, light) planned to be purchased in the project implementation.

5. RESULTS

A species list of cetaceans stranded and bycaught on the coasts of Türkiye during the project period is given in Table 1. Of the 8 species that regularly inhabit the seas of Türkiye (Black Sea, TSS-Turkish Straits

System, Aegean, Mediterranean), 5 species were sampled, the most sampled species was Black Sea harbour porpoise, and the Black Sea was the most sampled sea among the four seas Türkiye is facing (Figures 4 and 5).

Table 1. List of sampled individuals during the project

No	ID no	Region	Location	Species
1.	23001	Black Sea	Sinop	<i>D.delphis</i>
2.	23002	Black Sea	Sinop	<i>D.delphis</i>
3.	23003	Aegean Sea	Gökçeada	<i>S.coeruleoalba</i>
4.	23004	Aegean Sea	Bozcaada	<i>S.coeruleoalba</i>
5.	23010	Black Sea	Sinop	<i>P.phocoena</i>
6.	23011	Black Sea	Sinop	<i>P.phocoena</i>
7.	23013	Mediterranean Sea	Hatay	<i>G.griseus</i>
8.	23014	Black Sea	Sinop	<i>P.phocoena</i>
9.	23015	Black Sea	Sinop	<i>P.phocoena</i>
10.	23016	Black Sea	Sinop	<i>P.phocoena</i>
11.	23017	Black Sea	Sinop	<i>P.phocoena</i>
12.	23018	Black Sea	Sinop	<i>P.phocoena</i>
13.	23019	Black Sea	Sinop	<i>P.phocoena</i>
14.	23020	Black Sea	Sinop	<i>P.phocoena</i>
15.	23021	Black Sea	Sinop	<i>P.phocoena</i>
16.	23022	Black Sea	Sinop	<i>P.phocoena</i>
17.	23023	Black Sea	Sinop	<i>P.phocoena</i>
18.	23025	Black Sea	Sinop	<i>P.phocoena</i>
19.	23026	Turkish Straits System	Tekirdağ	<i>P.phocoena</i>
20.	23027	Black Sea	Sinop	<i>P.phocoena</i>
21.	23028	Black Sea	Sinop	<i>P.phocoena</i>
22.	23029	Mediterranean Sea	Hatay	<i>G.griseus</i>
23.	23030	Aegean Sea	Kuşadası	<i>D.delphis</i>
24.	23031	Black Sea	Sinop	<i>T.truncatus</i>
25.	23032	Mediterranean Sea	Antalya	<i>T.truncatus</i>
26.	23033	Mediterranean Sea	Antalya	<i>T.truncatus</i>
27.	23035	Turkish Straits System	Kireçburnu	<i>D.delphis</i>
28.	23036	Black Sea	Rize	<i>D.delphis</i>
29.	24001	Turkish Straits System	Silivri	<i>T.truncatus</i>
30.	24002	Turkish Straits System	Beykoz	<i>P.phocoena</i>
31.	24003	Turkish Straits System	Beykoz	<i>P.phocoena</i>
32.	24004	Black Sea	Sinop	<i>D.delphis</i>
33.	24005	Turkish Straits System	Beykoz	<i>D.delphis</i>
34.	24006	Black Sea	Sinop	<i>D.delphis</i>
35.	24007	Turkish Straits System	R.kavağı	<i>D.delphis</i>
36.	24008	Black Sea	Sinop	<i>D.delphis</i>
37.	24009	Black Sea	Sinop	<i>D.delphis</i>
38.	24010	Black Sea	Sinop	<i>P.phocoena</i>
39.	24011	Black Sea	Sinop	<i>T.truncatus</i>
40.	24012	Aegean Sea	Gökçeada	<i>P.phocoena</i>
41.	24013	Aegean Sea	Urla	<i>P.phocoena</i>

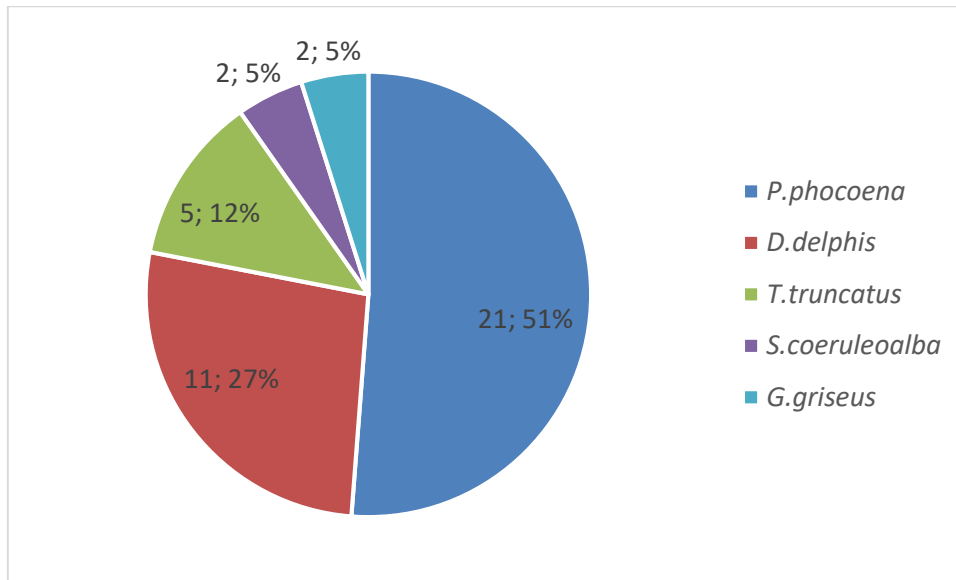


Figure 4. Species distribution of 41 collected samples in 2023-2024

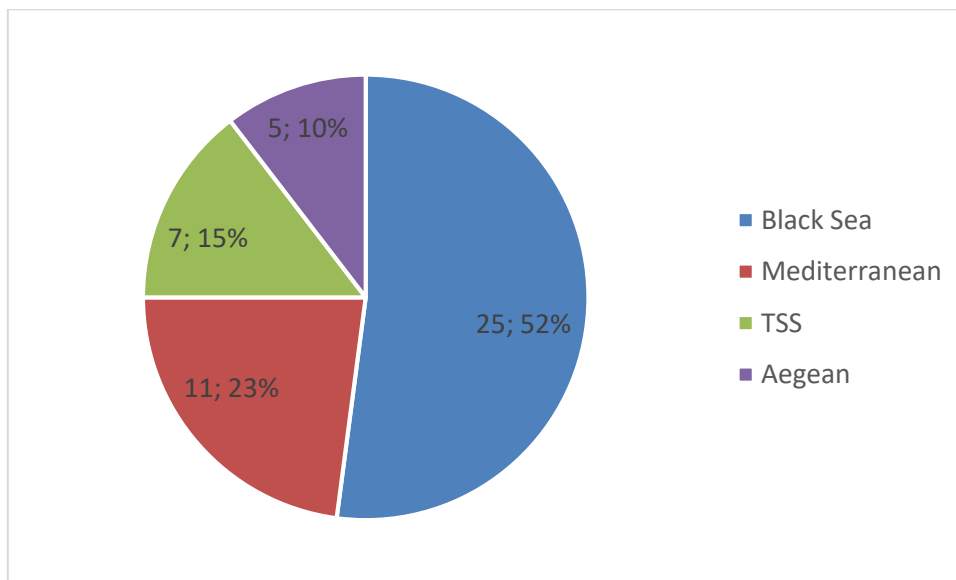


Figure 5. Distribution of collected 41 samples according to seas in 2023-2024

In necropsies and post-mortem examinations conducted during the project period, samples are taken for possible future studies on toxicology, genetic, disease, etc., while in the field studies, samples are usually taken only for genetic studies, depending on the state of decomposition.

The species distributions of the genetic samples collected since 1993 are given in the Figure 6 below. Relevant catalogue for samples is given in the Annex 1.

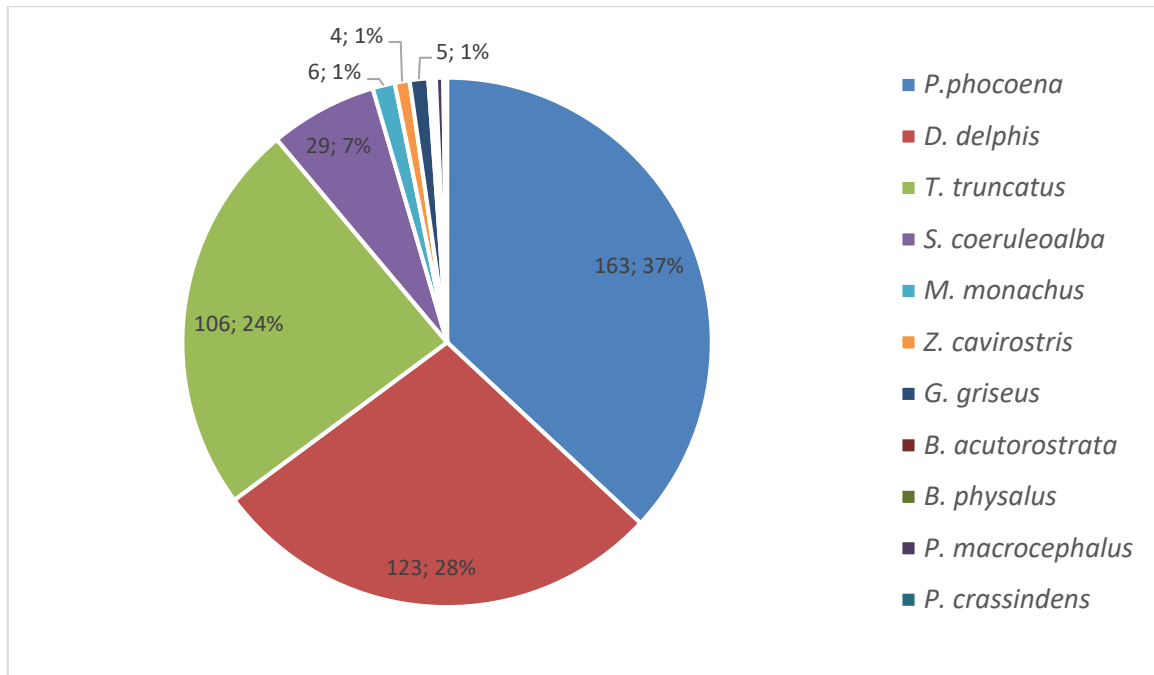


Figure 6. Species composition of 441 genetic samples collected (1993-2024)

6. CONCLUSIONS

This pioneering work on the creation of a tissue bank of cetaceans in Türkiye will continue beyond the end of the project period and will keep contributing to the local-national-regional effort to monitor and study cetaceans in the future.

7. RECOMMENDATION

It is recommended that this tissue bank be accredited in accordance with the suitable ISO standards and that the sustainability of this accreditation be ensured. For the development of the tissue bank, the cooperation with local authorities and the stranding network needs to be strengthened. For this, it is important that communication with ministries and municipalities is maintained and further elaborated. In most studies, such as genetic studies, it is obvious that sampling in a wide geographical perspective provides more information about the species. Therefore, not only national but also international collaborations should be emphasized.

REFERENCES

- Resolution 3.11. Conservation Plan for Black Sea Cetaceans. ACCOBAMS-MOP3/2007/Res.3.11
- Resolution 3.9. Guidelines for The Establishment of a System of Tissue Banks Within The Accobams Area And Ethical Code. ACCOBAMS-MOP3/2007/Res.3.9

Summary

The project provided support is for the establishment of a tissue bank of cetacean samples collected from all the coasts of Türkiye in Marine Mammals Laboratory at the basement of Faculty of Aquatic Sciences, Istanbul University with the partnership of an NGO, Turkish Marine Research Foundation.

Their sampling and storage capacity has been increased considerably by providing appropriate necropsy conditions.

During the project, a -80°C freezer was purchased; new samples were collected from 5 species and 41 individuals. Re-storing of genetic samples collected since 1993 has been organized. Also the communication within the existing cetacean stranding network was strengthened. New collaborations were made during the project.

The tissue bank will continue to contribute to future researches, including those involve collaborative effort with other institutions and countries, thus Türkiye will continue its activities as the only ACCOBAMS country with both Mediterranean and Black Sea coasts.

DNA Tissue Samples 1993-2024 CetaBankTR

	Species	Number	Context	Location
1	<i>D. delphis</i>	20015	Skin	Sinop
2	<i>D. delphis</i>	20007	Skin	Sinop
3	<i>D. delphis</i>	20005	Skin	Sinop
4	<i>D. delphis</i>	22003	Skin / Heart	Kilyos
5	<i>D. delphis</i>	21002	Skin	Sinop
6	<i>D. delphis</i>	13048	Skin	Büyükdere
7	<i>D. delphis</i>	12008	Skin	Üsküdar
8	<i>D. delphis</i>	12076	Skin	Yenikapı
9	<i>D. delphis</i>	08006	Skin-Heart	Kartal
10	<i>D. delphis</i>	09016	Skin-Soft Tissue	Ormanlı
11	<i>D. delphis</i>	08004	Skin-Soft Tissue	Yalova
12	<i>D. delphis</i>	08005	Skin-Heart	Kartal
13	<i>D. delphis</i>	12010	Skin	Kilyos
14	<i>D. delphis</i>	15002	Skin-Heart	Bostancı
15	<i>D. delphis</i>	13057	Skin	Şile
16	<i>D. delphis</i>	12063	Skin	Yalova
17	<i>D. delphis</i>	12002	Skin	Trabzon
18	<i>D. delphis</i>	12028	Skin	Kilyos
19	<i>D. delphis</i>	06004	Skin-Heart	Ortaköy
20	<i>D. delphis</i>	12075	Skin	Zeytinburnu
21	<i>D. delphis</i>	15047	Skin-Heart	Bodrum
22	<i>D. delphis</i>	10044	Skin	Rize/Çayeli
23	<i>D. delphis</i>	08012	Skin-Soft Tissue	Avcılar
24	<i>D. delphis</i>	12074	Skin	Zeytinburnu
25	<i>D. delphis</i>	13004	Skin / Soft Tissue	Avcılar
26	<i>D. delphis</i>	15001	Heart / Skin	Yeşilköy
27	<i>D. delphis</i>	15048	Skin	Samsun
28	<i>D. delphis</i>	18008	Skin	Sinop
29	<i>D. delphis</i>	15040	Skin	Şarköy
30	<i>D. delphis</i>	17023	Skin	Ormanlı
31	<i>D. delphis</i>	18032	Skin	Sinop
32	<i>D. delphis</i>	17008	Skin / Lung	Sinop
33	<i>D. delphis</i>	17009	Skin	Sinop
34	<i>D. delphis</i>	13007	Skin	Ormanlı
35	<i>D. delphis</i>	18013	Skin	Sinop
36	<i>D. delphis</i>	10014	Skin	Ormanlı
37	<i>D. delphis</i>	05007	Soft Tissue	Evcik/Podima
38	<i>D. delphis</i>	18024	Skin	Trabzon
39	<i>D. delphis</i>	18016	Skin	Sinop
40	<i>D. delphis</i>	18009	Skin	Sinop
41	<i>D. delphis</i>	18002	Skin	Gürpınar/İstanbul
42	<i>D. delphis</i>	10013	Skin	Ormanlı
43	<i>D. delphis</i>	18012	Skin	Sinop
44	<i>D. delphis</i>	18023	Skin	Trabzon
45	<i>D. delphis</i>	15041	Heart /Skin	Şarköy
46	<i>D. delphis</i>	09018	Skin	Ormanlı
47	<i>D. delphis</i>	18010	Skin	Sinop
48	<i>D. delphis</i>	16048	Skin-Heart	Gürpınar/İstanbul
49	<i>D. delphis</i>	11041	Skin	Ağva
50	<i>D. delphis</i>	09014	Skin	Burç
51	<i>D. delphis</i>	10047	Skin	Rize/Çayeli
52	<i>D. delphis</i>	09015	Skin	Kısırkaya
53	<i>D. delphis</i>	16046	Skin-Heart	Kuşadası
54	<i>D. delphis</i>	18014	Skin	Sinop

55	<i>D. delphis</i>	18018	Skin	Sinop
56	<i>D. delphis</i>	08019	Skin-Soft Tissue	Büyükdere
57	<i>D. delphis</i>	11042	Skin	Ağva
58	<i>D. delphis</i>	04022	Skin	Şile
59	<i>D. delphis</i>	18020	Skin	Sinop
60	<i>D. delphis</i>	16054	Skin	Sinop
61	<i>D. delphis</i>	18006	Skin	Sinop/Karakum
62	<i>D. delphis</i>	B1	Skin-Soft Tissue	Boğaz
63	<i>D. delphis</i>	22036	Skin-Heart	Kireçburnu
64	<i>D. delphis</i>	18019	Skin	Sinop
65	<i>D. delphis</i>	09025	Skin	Ormanlı
66	<i>D. delphis</i>	09009	Skin	Şile
67	<i>D. delphis</i>	18021	Skin	Sinop
68	<i>D. delphis</i>	12064	Skin	Ormanlı
69	<i>D. delphis</i>	21036	Skin	Unknown
70	<i>D. delphis</i>	17017	Skin	Ormanlı
71	<i>D. delphis</i>	18004	Skin	Şile
72	<i>D. delphis</i>	Ç1	Skin-Soft Tissue	Unknown
73	<i>D. delphis</i>	21008	Skin-Heart	Büyükdere
74	<i>D. delphis</i>	22002	Skin	Çeşme
75	<i>D. delphis</i>	22004	Skin / Soft Tissue	Kilyos
76	<i>D. delphis</i>	22023	Skin	Beykoz/İBB
77	<i>D. delphis</i>	22026	Skin/Heart	Beykoz
78	<i>D. delphis</i>	22027	Skin	Beykoz
79	<i>D. delphis</i>	22005	Heart / Skin	Şile
80	<i>D. delphis</i>	22001	Soft Tissue	Kuşadası
81	<i>D. delphis</i>	21011	Skin-Soft Tissue	Riva
82	<i>D. delphis</i>	18043	Skin-Soft Tissue	Anadolu Kavağı
83	<i>D. delphis</i>	21005	Skin-Soft Tissue	Karaköy
84	<i>D. delphis</i>	21007	Skin-Heart	Vaniköy
85	<i>D. delphis</i>	18001	Skin-Soft Tissue	Bodrum
86	<i>D. delphis</i>	21010	Skin-Soft Tissue	Riva
87	<i>D. delphis</i>	19007	Skin-Heart	Zeytinburnu
88	<i>D. delphis</i>	21006	Skin-Soft Tissue	Kuleli
89	<i>D. delphis</i>	98003	Skin / Muscle	İstanbul Strait
90	<i>D. delphis</i>	03003	Skin-Muscle-Liver	Gümüşdere
91	<i>D. delphis</i>	03021	Skin-Muscle	Camis/Evcik
92	<i>D. delphis</i>	03022	Skin-Muscle	Camis/Evcik
93	<i>D. delphis</i>	03019	Skin-Muscle	Podima/Camis
94	<i>D. delphis</i>	03041	Skin	Evcik/Orman
95	<i>D. delphis</i>	03042	Skin	Evcik/Orman
96	<i>D. delphis</i>	03016	Skin-Muscle-Liver	Ormanlı/Evcik
97	<i>D. delphis</i>	18048	Skin	Sinop
98	<i>D. delphis</i>	99001	unknown	Yalova
99	<i>D. delphis</i>	13003	Skin / Soft Tissue	Gürpınar/İstanbul
100	<i>D. delphis</i>	16008	Skin	Tekirdağ
101	<i>D. delphis</i>	11036	Skin	Yalıköy
102	<i>D. delphis</i>	13050	Skin-Heart	Tellibaba
103	<i>D. delphis</i>	16006	Skin	Trabzon
104	<i>D. delphis</i>	10050	Skin	Rize/Çayeli
105	<i>D. delphis</i>	12065	Skin	Kartal
106	<i>D. delphis</i>	15042	Skin	Şuayipli
107	<i>D. delphis</i>	13047	Skin	Beykoz
108	<i>D. delphis</i>	15010	Skin	Şile/Kumbaba
109	<i>D. delphis</i>	16003	Skin	Beykoz
110	<i>D. delphis</i>	12077	Heart / Skin	Yenikapı

111	<i>D. delphis</i>	13052	Heart / Skin	Beşiktaş
112	<i>D. delphis</i>	10048	Skin	Rize/Çayeli
113	<i>D. delphis</i>	12029	Skin	Rumeli Kavağı
114	<i>D. delphis</i>	03018	Skin-Muscle	Podima/Camis
115	<i>D. delphis</i>	07001	Skin-Liver-Muscle	Büyükdere
116	<i>D. delphis</i>	03031	Skin-Liver-Muscle	Gümüşdere
117	<i>D. delphis</i>	03030	Muscle	Şile
118	<i>D. delphis</i>	11005	Skin	Rumeli Feneri
119	<i>D. delphis</i>	03007	Skin-Liver-Muscle	Karaburun
120	<i>D. delphis</i>	17013	Soft Tissue	Sinop
121	<i>D. delphis</i>	23030	Skin	Kuşadası
122	<i>D. delphis</i>	12007	Skin-Soft Tissue	Çekmece
123	<i>D. delphis</i>	24005	Skin	Beykoz
124	<i>D. delphis</i>	24007	Skin-Heart	Rumeli Kavağı
125	<i>T. truncatus</i>	16047	Skin / Soft Tissue	Gökçeada
126	<i>T. truncatus</i>	11013	Skin	Ormanlı
127	<i>T. truncatus</i>	99007	Skin-Soft Tissue	İstanbul Strait
128	<i>T. truncatus</i>	15050	Skin	Gökçeada
129	<i>T. truncatus</i>	10020	Skin	Sahilköy
130	<i>T. truncatus</i>	11007	Skin	Domalı
131	<i>T. truncatus</i>	16050	Skin-Heart	Sinop
132	<i>T. truncatus</i>	16052	Skin	İğneada
133	<i>T. truncatus</i>	16030	Skin	Ormanlı
134	<i>T. truncatus</i>	15033	Skin / Heart	Kuşadası
135	<i>T. truncatus</i>	10022	Skin-Heart	Şile
136	<i>T. truncatus</i>	11040	Skin	Ormanlı
137	<i>T. truncatus</i>	12006	Soft Tissue	Filburnu
138	<i>T. truncatus</i>	08001	Skin	Ormanlı/Evcik
139	<i>T. truncatus</i>	13055	Skin	Ormanlı
140	<i>T. truncatus</i>	10002	Skin	Ormanlı
141	<i>T. truncatus</i>	08015	Skin	Ormanlı
142	<i>T. truncatus</i>	05001	Skin-Soft Tissue	Eminönü
143	<i>T. truncatus</i>	10017	Skin	Ormanlı
144	<i>T. truncatus</i>	04016	Soft Tissue / Skin	Ormanlı/Evcik
145	<i>T. truncatus</i>	18030	Skin / Heart	Sinop
146	<i>T. truncatus</i>	17018	Skin	Ormanlı
147	<i>T. truncatus</i>	16014	Skin	Ormanlı
148	<i>T. truncatus</i>	11001	Skin	Kısırkaya
149	<i>T. truncatus</i>	17019	Skin-Heart-Liver	Tarabya
150	<i>T. truncatus</i>	17027	Skin	Kuşadası
151	<i>T. truncatus</i>	20008	Heart / Skin	Kilyos
152	<i>T. truncatus</i>	18026	Heart / Skin	Bodrum
153	<i>T. truncatus</i>	18045	Skin	Bodrum/Gümüşlük
154	<i>T. truncatus</i>	20011	Skin	Hatay
155	<i>T. truncatus</i>	18049	Skin	Gökçeada
156	<i>T. truncatus</i>	17003	Skin	Kumburgaz
157	<i>T. truncatus</i>	21016	Skin	Garipçe/B. Liman
158	<i>T. truncatus</i>	19005	Soft Tissue	Gökçeada/Uğurlu
159	<i>T. truncatus</i>	03015	Skin-Muscle	Ormanlı/Evcik
160	<i>T. truncatus</i>	08003	Skin-Muscle	Adalar
161	<i>T. truncatus</i>	03039	Skin-Muscle	Evcik/Camiş
162	<i>T. truncatus</i>	12078	Skin-Soft Tissue	Hoşköy
163	<i>T. truncatus</i>	07006	Skin-Soft Tissue	Rumeli Feneri
164	<i>T. truncatus</i>	13019	Skin	Büyükdere
165	<i>T. truncatus</i>	13044	Skin-Soft Tissue	Bostancı
166	<i>T. truncatus</i>	15045	Skin	Maltepe

167	<i>T. truncatus</i>	16007	Skin	Mersin
168	<i>T. truncatus</i>	13009	Skin / Soft Tissue	Kumburgaz
169	<i>T. truncatus</i>	12057	Skin	Ormanlı
170	<i>T. truncatus</i>	10035	Skin	Ezine
171	<i>T. truncatus</i>	14007	Heart / Skin	Tuzla
172	<i>T. truncatus</i>	12031	Skin	Boyacıköy
173	<i>T. truncatus</i>	13023	Skin	Beykoz
174	<i>T. truncatus</i>	14011	Skin-Muscle	Rumeli Kavağı
175	<i>T. truncatus</i>	13022	Skin	İzmit
176	<i>T. truncatus</i>	14015	Skin-Soft Tissue	Dikili
177	<i>T. truncatus</i>	09004	Skin-Soft Tissue	Beykoz
178	<i>T. truncatus</i>	12004	Skin	Ormanlı
179	<i>T. truncatus</i>	14009	Skin-Heart	Beykoz
180	<i>T. truncatus</i>	14020	Skin	Bozcaada
181	<i>T. truncatus</i>	10040	Skin	Gökçeada
182	<i>T. truncatus</i>	15049	Skin-Soft Tissue	Erdemli
183	<i>T. truncatus</i>	15021	Skin / Soft Tissue	Tuzla
184	<i>T. truncatus</i>	13012	Skin	Ormanlı
185	<i>T. truncatus</i>	13021	Skin	Büyükdere
186	<i>T. truncatus</i>	14001	Skin	Samatya
187	<i>T. truncatus</i>	08025	Skin	Gökçeada
188	<i>T. truncatus</i>	15012	Skin	Bebek
189	<i>T. truncatus</i>	08030	Skin-Soft Tissue	Kilyos
190	<i>T. truncatus</i>	11008	Skin	Domalı
191	<i>T. truncatus</i>	10023	Skin	Kanlıca
192	<i>T. truncatus</i>	11018	unknown	Kalamış
193	<i>T. truncatus</i>	13024	Skin-Soft Tissue	Rumeli Feneri
194	<i>T. truncatus</i>	12020	Skin	Ormanlı
195	<i>T. truncatus</i>	14004	unknown	Ormanlı
196	<i>T. truncatus</i>	13029	Skin	Ormanlı
197	<i>T. truncatus</i>	13011	Skin	Ormanlı
198	<i>T. truncatus</i>	14023	Skin	Kartal
199	<i>T. truncatus</i>	15044	Soft Tissue / Skin	Şarköy
200	<i>T. truncatus</i>	13037	Soft Tissue	Antalya
201	<i>T. truncatus</i>	13014	Skin	Ormanlı
202	<i>T. truncatus</i>	16004	Heart / Skin	Yenikapı
203	<i>T. truncatus</i>	11032	Skin	Ormanlı
204	<i>T. truncatus</i>	09005	Skin	Evcik/Podima
205	<i>T. truncatus</i>	13013	Skin	Ormanlı
206	<i>T. truncatus</i>	13008	Skin	Büyükçekmece
207	<i>T. truncatus</i>	13035	Skin	Beykoz
208	<i>T. truncatus</i>	03036	Skin-Liver-Muscle	Karaburun
209	<i>T. truncatus</i>	08020	Soft Tissue / Skin	Poyrazköy
210	<i>T. truncatus</i>	03029	Skin	Riva 2. Koy
211	<i>T. truncatus</i>	16009	Skin	Zonguldak
212	<i>T. truncatus</i>	10030	Skin	İzmit
213	<i>T. truncatus</i>	13054	Heart / Skin	Gaziköy
214	<i>T. truncatus</i>	16005	Skin	Tekirdağ
215	<i>T. truncatus</i>	13006	Skin	Ormanlı
216	<i>T. truncatus</i>	15006	Soft Tissue	Mersin
217	<i>T. truncatus</i>	14006	Skin	Beylikdüzü
218	<i>T. truncatus</i>	15019	Skin-Soft Tissue	Ormanlı
219	<i>T. truncatus</i>	13032	Skin	Dalya
220	<i>T. truncatus</i>	12019	Skin	Ormanlı
221	<i>T. truncatus</i>	15004	Skin	Karaburun
222	<i>T. truncatus</i>	15032	Soft Tissue	Rumeli Feneri

223	<i>T. truncatus</i>	15020	Skin	Uzunya
224	<i>T. truncatus</i>	03008	Skin-Muscle	Karaburun
225	<i>T. truncatus</i>	03020	Skin-Muscle	Podima/Camiş
226	<i>T. truncatus</i>	03061	Skin-Liver-Muscle	Burç
227	<i>T. truncatus</i>	03040	Skin-Muscle	Podima/Camiş
228	<i>T. truncatus</i>	03037	Skin-Muscle	Riva 2. Koy
229	<i>T. truncatus</i>	24001	Skin	Silivri
230	<i>P. phocoena</i>	17001	Liver-Muscle / Skin-Heart	Beykoz
231	<i>P. phocoena</i>	17014	Skin	Zonguldak
232	<i>P. phocoena</i>	16039	Skin / Soft Tissue	Şile/Kumbaba
233	<i>P. phocoena</i>	17028	Skin	Burgazada
234	<i>P. phocoena</i>	07011	Skin	Camiş
235	<i>P. phocoena</i>	17011	Skin	Kerpe
236	<i>P. phocoena</i>	17007	Skin	Sinop / Karakum
237	<i>P. phocoena</i>	17006	Skin / Heart	Akçakoca
238	<i>P. phocoena</i>	07013	Skin-Heart	Rumeli Feneri
239	<i>P. phocoena</i>	17002	Skin	Selimpaşa
240	<i>P. phocoena</i>	07019	Skin-Heart	Kilyos
241	<i>P. phocoena</i>	17024	Skin	Ormanlı
242	<i>P. phocoena</i>	07010	Skin	Podima/Evcik
243	<i>P. phocoena</i>	03002	Skin	Samsun/Yalıköy
244	<i>P. phocoena</i>	16053	Heart	Halıdere
245	<i>P. phocoena</i>	16002	Skin	Moda
246	<i>P. phocoena</i>	17010	Skin	Sinop
247	<i>P. phocoena</i>	15058	Skin-Soft Tissue	Unknown
248	<i>P. phocoena</i>	09034	Skin	Ormanlı
249	<i>P. phocoena</i>	13020	Soft Tissue	Biga
250	<i>P. phocoena</i>	11050	Skin	Rize/Çayeli
251	<i>P. phocoena</i>	07012	Skin-Soft Tissue	Rumeli Feneri
252	<i>P. phocoena</i>	16036	Soft Tissue / Skin	Domalı
253	<i>P. phocoena</i>	07003	Skin-Soft Tissue	Rumeli Feneri
254	<i>P. phocoena</i>	07004	Skin-Soft Tissue	Rumeli Feneri
255	<i>P. phocoena</i>	22037	Skin-Heart	Çayırbaşı
256	<i>P. phocoena</i>	07021	Skin-Soft Tissue	Rumeli Feneri
257	<i>P. phocoena</i>	21009	Skin-Soft Tissue	Gürpınar/İstanbul
258	<i>P. phocoena</i>	18040	Skin-Soft Tissue	Kısırkaya
259	<i>P. phocoena</i>	18050	Soft Tissue / Skin	Suadiye
260	<i>P. phocoena</i>	18042	Skin	Kısırkaya
261	<i>P. phocoena</i>	18036	Skin	Kısırkaya
262	<i>P. phocoena</i>	21003	Skin	Kemerburgaz
263	<i>P. phocoena</i>	19003	Skin	Silivri
264	<i>P. phocoena</i>	18041	Skin	Kısırkaya
265	<i>P. phocoena</i>	19009	Skin	Sinop
266	<i>P. phocoena</i>	19016	Skin	Sinop
267	<i>P. phocoena</i>	12054	Skin-Soft Tissue	Riva
268	<i>P. phocoena</i>	12052	Skin	Riva
269	<i>P. phocoena</i>	12071	Skin	Ormanlı
270	<i>P. phocoena</i>	11048	Skin	Rize
271	<i>P. phocoena</i>	12053	Skin	Paşabahçe
272	<i>P. phocoena</i>	12062	Skin	Sahilköy
273	<i>P. phocoena</i>	12069	Skin	Ormanlı
274	<i>P. phocoena</i>	20013	Skin	Büyükada
275	<i>P. phocoena</i>	20004	Skin	Yeşilköy
276	<i>P. phocoena</i>	Unknown	Skin	Unknown
277	<i>P. phocoena</i>	20009	Skin	Kilyos
278	<i>P. phocoena</i>	19004	Skin	Gökçeada

279	<i>P. phocoena</i>	18044	Soft Tissue	Kireçburnu
280	<i>P. phocoena</i>	23026	Skin	Tekirdağ
281	<i>P. phocoena</i>	06007	Skin-Muscle	Yalova
282	<i>P. phocoena</i>	99017	Liver-Muscle / Skin	Karaburun
283	<i>P. phocoena</i>	02008	Skin-Muscle-Liver	Karaburun
284	<i>P. phocoena</i>	03004	Liver-Muscle	Rumeli Feneri
285	<i>P. phocoena</i>	99003	Liver-Muscle	Rumeli Feneri
286	<i>P. phocoena</i>	99002	Liver-Muscle	Rumeli Feneri
287	<i>P. phocoena</i>	İ-29	Soft Tissue	Karaburun
288	<i>P. phocoena</i>	İ-28	Soft Tissue	Karaburun
289	<i>P. phocoena</i>	17016	Skin	Sinop
290	<i>P. phocoena</i>	04002	Skin-Soft Tissue	Yalova
291	<i>P. phocoena</i>	04003	Soft Tissue	Yalova
292	<i>P. phocoena</i>	04026	Soft Tissue	Yalova
293	<i>P. phocoena</i>	99005	Soft Tissue	Rumeli Feneri
294	<i>P. phocoena</i>	99033	Soft Tissue	Karaburun
295	<i>P. phocoena</i>	99031	Soft Tissue	Karaburun
296	<i>P. phocoena</i>	99016	Soft Tissue	Karaburun
297	<i>P. phocoena</i>	99004	Soft Tissue	Rumeli Feneri
298	<i>P. phocoena</i>	99024	Soft Tissue	Rumeli Feneri
299	<i>P. phocoena</i>	99025	Soft Tissue	Rumeli Feneri
300	<i>P. phocoena</i>	99019	Soft Tissue	Karaburun
301	<i>P. phocoena</i>	99015	Soft Tissue	Karaburun
302	<i>P. phocoena</i>	10038	Skin	Rize/Çayeli
303	<i>P. phocoena</i>	10037	Skin	Rize/Çayeli
304	<i>P. phocoena</i>	10009	Skin	Rize/Çayeli
305	<i>P. phocoena</i>	10036	Skin	Rize
306	<i>P. phocoena</i>	10008	Skin	Rize
307	<i>P. phocoena</i>	14021	Skin	Saroz
308	<i>P. phocoena</i>	15038	Skin / Heart	Riva
309	<i>P. phocoena</i>	16018	Skin / Soft Tissue	Silivri
310	<i>P. phocoena</i>	16038	Skin	Şile/Kumbaba
311	<i>P. phocoena</i>	11052	Skin	Rize/Çayeli
312	<i>P. phocoena</i>	10006	Skin	Rize
313	<i>P. phocoena</i>	16016	Heart / Skin	Mudanya
314	<i>P. phocoena</i>	16037	Skin	Şile/Kumbaba
315	<i>P. phocoena</i>	16040	Skin	Kefken
316	<i>P. phocoena</i>	15011	Skin	İzmit
317	<i>P. phocoena</i>	12051	Skin	Tuzla
318	<i>P. phocoena</i>	11046	Skin	Rize
319	<i>P. phocoena</i>	06005	Skin	Yeniköy
320	<i>P. phocoena</i>	11033	Skin	Ormanlı
321	<i>P. phocoena</i>	07002	Skin-Soft Tissue	Saroz
322	<i>P. phocoena</i>	07018	Skin-Soft Tissue	Rumeli Feneri
323	<i>P. phocoena</i>	11044	Skin	Rize
324	<i>P. phocoena</i>	11021	unknown / Skin	Ormanlı
325	<i>P. phocoena</i>	11017	Skin	Ormanlı
326	<i>P. phocoena</i>	07020	Heart	Rumeli Feneri
327	<i>P. phocoena</i>	12001	Skin	İzmit
328	<i>P. phocoena</i>	11023	Skin	Ormanlı
329	<i>P. phocoena</i>	Unknown	Skin / Soft Tissue	Silivri
330	<i>P. phocoena</i>	16051	Skin	Ormanlı
331	<i>P. phocoena</i>	12050	Skin / Heart	Kireçburnu
332	<i>P. phocoena</i>	16049	Skin-Soft Tissue	Çanakkale Yelken Klübü
333	<i>P. phocoena</i>	14002	Skin	Gökçeada
334	<i>P. phocoena</i>	15009	Skin / Heart	Ormanlı

335	<i>P. phocoena</i>	11002	Soft Tissue / Skin	Riva
336	<i>P. phocoena</i>	16043	Soft Tissue / Skin	Riva
337	<i>P. phocoena</i>	16031	unknown	Beykoz
338	<i>P. phocoena</i>	11020	Skin	Ormanlı
339	<i>P. phocoena</i>	15003	Skin-Soft Tissue	Yalova
340	<i>P. phocoena</i>	08027	Skin	Rumeli Feneri
341	<i>P. phocoena</i>	15017	Skin-Soft Tissue	Ormanlı
342	<i>P. phocoena</i>	16021	Skin	Ormanlı
343	<i>P. phocoena</i>	16033	Skin	Ormanlı
344	<i>P. phocoena</i>	16029	Skin	Ormanlı
345	<i>P. phocoena</i>	15018	Skin	Ormanlı
346	<i>P. phocoena</i>	15039	Skin	Ormanlı
347	<i>P. phocoena</i>	12003	Skin	İzmit
348	<i>P. phocoena</i>	15022	Skin	Kısırkaya
349	<i>P. phocoena</i>	13036	Skin	Eşkel
350	<i>P. phocoena</i>	16045	Skin	Ormanlı
351	<i>P. phocoena</i>	08007	Skin-Soft Tissue	Rumeli Kavağı
352	<i>P. phocoena</i>	16032	Skin	Ormanlı
353	<i>P. phocoena</i>	13005	Skin	Tuzla
354	<i>P. phocoena</i>	16023	Skin	Ormanlı
355	<i>P. phocoena</i>	08029	Skin	Rumeli Feneri
356	<i>P. phocoena</i>	08008	Skin-Soft Tissue	Fenerbahçe
357	<i>P. phocoena</i>	15031	Skin-Soft Tissue	Ormanlı
358	<i>P. phocoena</i>	11011	Skin	Ormanlı
359	<i>P. phocoena</i>	11009	Skin	Domalı
360	<i>P. phocoena</i>	08013	unknown	Ormanlı
361	<i>P. phocoena</i>	05002	Skin	Ormanlı/Evcik
362	<i>P. phocoena</i>	05004	Skin	Evcik/Podima
363	<i>P. phocoena</i>	05008	Skin	Evcik/Podima
364	<i>P. phocoena</i>	05005	Skin	Evcik/Podima
365	<i>P. phocoena</i>	18003	Skin	İzmit
366	<i>P. phocoena</i>	18027	Skin-Soft Tissue	Sinop
367	<i>P. phocoena</i>	18017	Skin	Hereke
368	<i>P. phocoena</i>	18022	Skin	Silivri
369	<i>P. phocoena</i>	18011	Skin	Sinop
370	<i>P. phocoena</i>	18007	Skin	Sinop
371	<i>P. phocoena</i>	11004	Skin	K. Ereğli
372	<i>P. phocoena</i>	11003	Skin	K. Ereğli
373	<i>P. phocoena</i>	11010	Skin	Kilyos
374	<i>P. phocoena</i>	09035	Skin	Şile
375	<i>P. phocoena</i>	07014	Skin-Soft Tissue	Rumeli Feneri
376	<i>P. phocoena</i>	11047	Skin	Rize
377	<i>P. phocoena</i>	07015	Skin-Soft Tissue	Rumeli Feneri
378	<i>P. phocoena</i>	09033	Skin	Ormanlı
379	<i>P. phocoena</i>	07005	Skin-Soft Tissue	Rumeli Feneri
380	<i>P. phocoena</i>	15013	Skin	Beykoz
381	<i>P. phocoena</i>	07007	Skin-Soft Tissue	Rumeli Feneri
382	<i>P. phocoena</i>	08014	Skin	Ormanlı
383	<i>P. phocoena</i>	02003	Skin-Soft Tissue	Karaburun
384	<i>P. phocoena</i>	11045	Skin	Rize
385	<i>P. phocoena</i>	03023	Skin-Liver-Muscle	Karaburun
386	<i>P. phocoena</i>	09006	Skin	Evcik/Podima
387	<i>P. phocoena</i>	09010	Skin	Şile
388	<i>P. phocoena</i>	11006	Skin	Kilyos
389	<i>P. phocoena</i>	07016	Skin-Soft Tissue	Rumeli Feneri
390	<i>P. phocoena</i>	20003	Skin	Bartın

391	<i>P. phocoena</i>	24002	Skin	Beykoz
392	<i>P. phocoena</i>	24003	Skin	Beykoz
393	<i>P. phocoena</i>	24013	Skin	Urla/İzmir
394	<i>Z. cavirostris</i>	16017	Heart / Skin	Seferihisar
395	<i>Z. cavirostris</i>	16020	Soft Tissue / Skin	Antalya
396	<i>Z. cavirostris</i>	17029	Skin / Heart	Antalya
397	<i>Z. cavirostris</i>	16015	Skin	Akyaka
398	<i>S. coeruleoalba</i>	23004	Skin	Bozcaada
399	<i>S. coeruleoalba</i>	22020	Skin	Selçuk
400	<i>S. coeruleoalba</i>	17020	Skin / Heart	Çeşme
401	<i>S. coeruleoalba</i>	15036	Skin	Kuşadası
402	<i>S. coeruleoalba</i>	15046	Skin	Bodrum
403	<i>S. coeruleoalba</i>	12030	Skin	Çukurova
404	<i>S. coeruleoalba</i>	14026	Skin	Bodrum
405	<i>S. coeruleoalba</i>	13001	Skin / Soft Tissue	Silivri
406	<i>S. coeruleoalba</i>	21020	Skin	Saros
407	<i>S. coeruleoalba</i>	17025	Soft Tissue	Gökçeada
408	<i>S. coeruleoalba</i>	19017	Skin	Hatay
409	<i>S. coeruleoalba</i>	13016	Skin	Saros/Bakla Koyu
410	<i>S. coeruleoalba</i>	15035	Skin	Kuşadası
411	<i>S. coeruleoalba</i>	17021	Skin	Gökçeada
412	<i>S. coeruleoalba</i>	17022	Skin	Gökçeada
413	<i>S. coeruleoalba</i>	20012	Skin	Hatay
414	<i>S. coeruleoalba</i>	20001	Skin	Gökçeada
415	<i>S. coeruleoalba</i>	21004	Skin-Soft Tissue	Gökçeada
416	<i>S. coeruleoalba</i>	22032	Skin	Gökçeada
417	<i>S. coeruleoalba</i>	22031	Skin	Gökçeada
418	<i>S. coeruleoalba</i>	03056	Skin / Liver / Muscle	Fethiye
419	<i>S. coeruleoalba</i>	03058	Skin-Muscle-Liver	Fethiye
420	<i>S. coeruleoalba</i>	04025	Skin-Muscle	Fethiye
421	<i>S. coeruleoalba</i>	03059	Skin-Muscle-Liver	Fethiye
422	<i>S. coeruleoalba</i>	03057	Muscle / Liver / Skin	Fethiye
423	<i>S. coeruleoalba</i>	03060	Skin-Muscle-Liver	Fethiye
424	<i>S. coeruleoalba</i>	99036	Soft Tissue / Soft Tissue	Fethiye
425	<i>S. coeruleoalba</i>	99011	Soft Tissue / Soft Tissue	Fethiye
426	<i>S. coeruleoalba</i>	T1	Skin-Soft Tissue	Tuzla
427	<i>M. monachus</i>	17005	Skin / Soft Tissue	Kıbrıs
428	<i>M. monachus</i>	14005	Skin	Mersin
429	<i>M. monachus</i>	13042	Skin / Soft Tissue	Antalya
430	<i>M. monachus</i>	17031	Heart / Skin	Antalya
431	<i>M. monachus</i>	A2	Soft Tissue	Aydıncık
432	<i>B. acutorostrata</i>	15008	Skin/Heart, Skin-Soft Tissue	Yumurtalık
433	<i>B. physalus</i>	16001	Skin	İskenderun
434	<i>G. griseus</i>	16055	Skin	Datça
435	<i>G. griseus</i>	12073	Skin / Soft Tissue	Gaziköy
436	<i>G. griseus</i>	23029	Skin	Hatay
437	<i>G. griseus</i>	00009	Skin-Muscle	Fethiye
438	<i>G. griseus</i>	99037	Soft Tissue / Skin	Fethiye
439	<i>P. macrocephalus</i>	20014	Skin	Kumluca/Antalya
440	<i>P. macrocephalus</i>	19015	Skin	Fethiye
441	<i>P. crassindens</i>	21019	Skin	Antalya