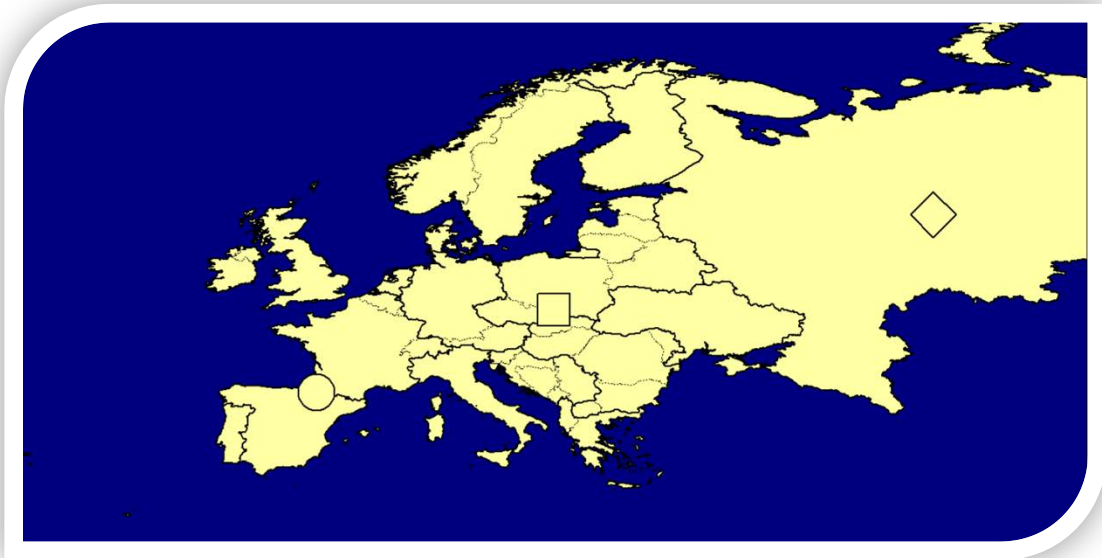


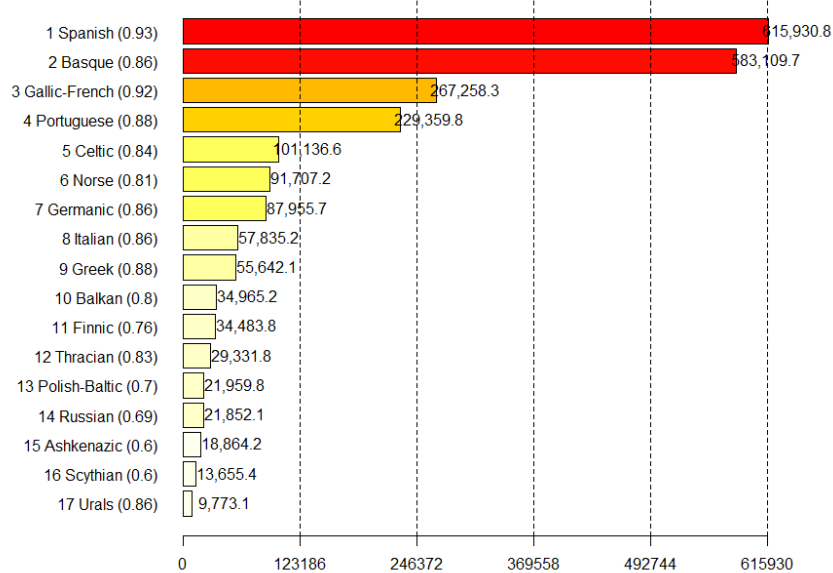
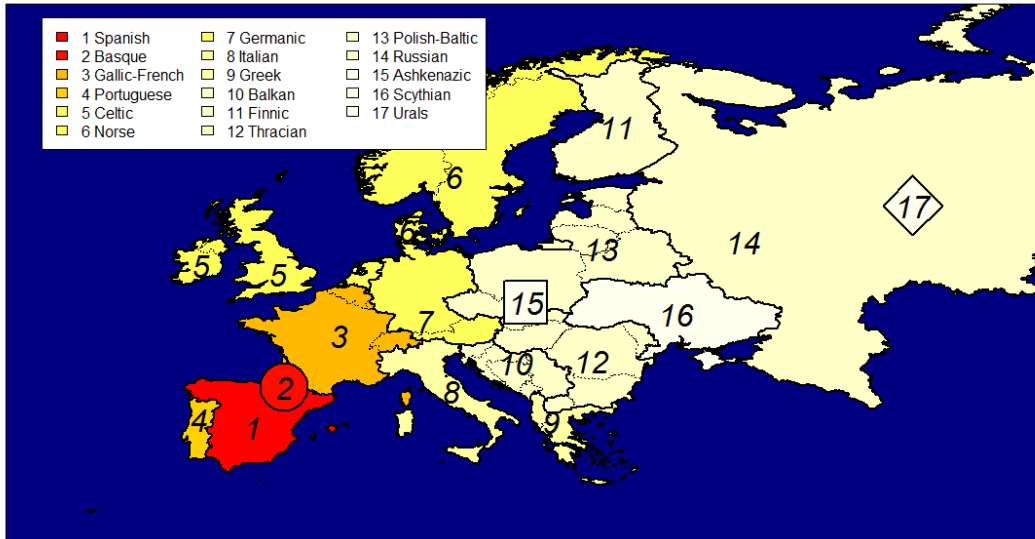
About DNA Tribes® Europa

Introduction: *DNA Tribes® Europa* is a specialized analysis that includes a detailed comparison to genetic sub-regions of Europe. The scores in this *DNA Tribes® Europa* report can be compared to more general world region match score information in Part D of your 22 or 26 Marker Kit report.

A Guide to Genetic Sub-Regions of Europe: Your *DNA Tribes® Europa* results identify the sub-regions of Europe where your DNA profile is most common. These genetic sub-regions (*illustrated below*) include both geographical territories and endogamous trans-national communities who have retained unique genetic characteristics. The pages following your own analysis include information about each European sub-region.



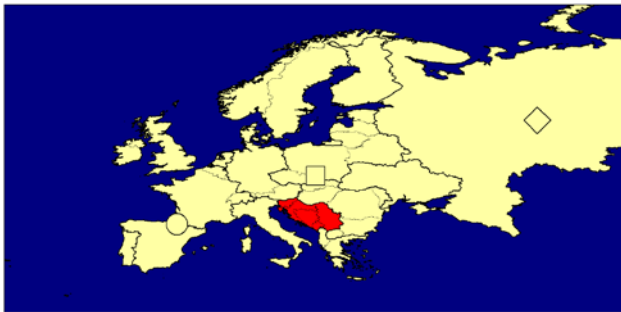
Your DNA Tribes® Europa Results Spanish Person



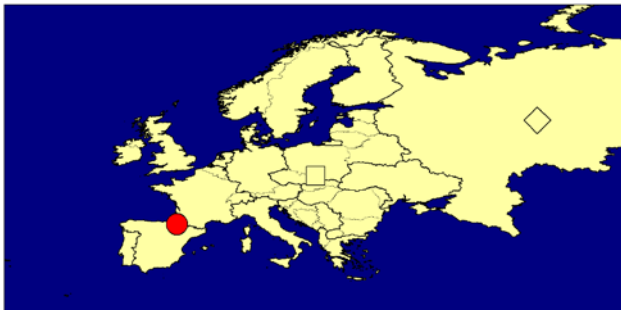
A Guide to the Genetic Sub-Regions of Europe:



Ashkenazic: Ashkenazim (from the Hebrew word for Germany) are Jewish Diaspora peoples historically living as endogamous communities within Central and Eastern Europe. Ashkenazi populations trace their genetic roots to medieval Jewish communities along the Rhine River and ultimately to the Land of Israel.

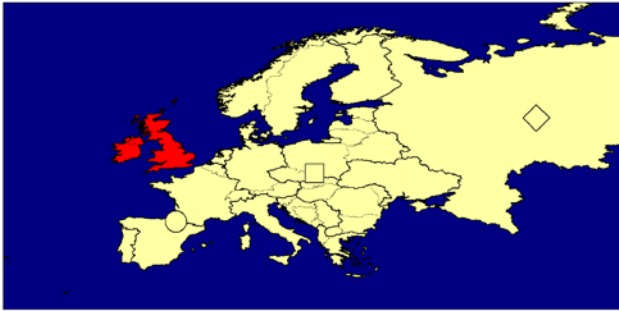


Balkan: The Balkan region includes lands of southeastern Europe along the Adriatic Sea, including the rugged mountain territories of the Dinaric Alps. A large part of this predominantly Slavic-speaking area was previously known as Yugoslavia (meaning “Land of the South Slavs”), now divided into several smaller and independent nations.

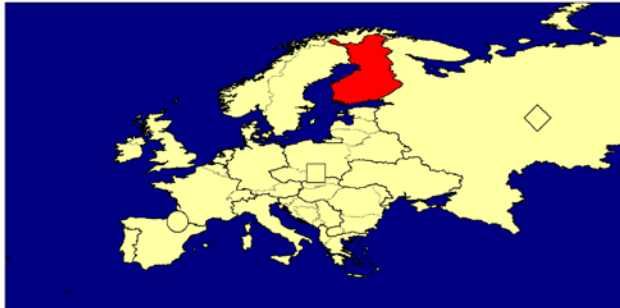


Basque: The Basque people live in historical lands near the Pyrenees Mountains and the Bay of Biscay, in parts of present day France and Spain. Basque peoples speak *Euskara*, a unique language unrelated to the Indo-European tongues spoken by most Europeans, and their distinctive culture is sometimes thought to be descended

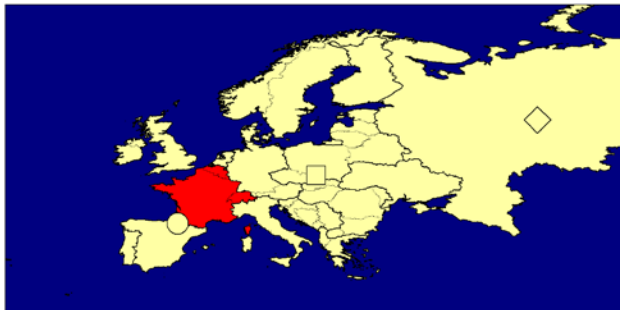
from traditions maintained in Iberia since the time of the last Ice Age.



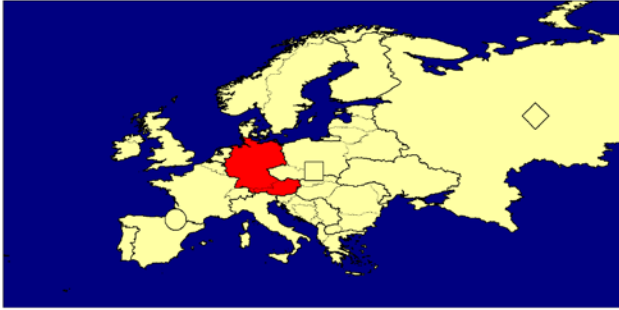
Celtic: The Celtic region includes the historically Celtic-speaking nations and territories along the Atlantic façade of Northwestern Europe. These cultures are known not only for their unique Indo-European languages, but also for forms of art, music, and sport local to homelands in and near the British Isles.



Finnic: The Finnic region is the northernmost region of Europe and home to Finns, Estonians and related Scandinavian peoples. These northern cultures are distinguished by their Uralic languages, related to tongues spoken in Hungary and by some ethnic groups of Western Siberia.

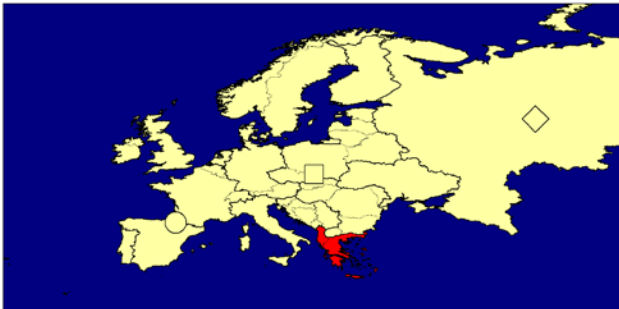


Gallic-French: The Gallic-French region includes populations of present day France, Switzerland, and Belgium. In the time of Julius Caesar, these lands were known as Gaul or *Gallia* and home to a variety of local cultures.



Germanic: The Germanic region includes the Germanic speaking lands of West and Central Europe (present day Germany and Austria). Named *Germania* by the Romans, these centrally located territories were home to the influential Teutonic peoples who often came in contact with nearby regions and were instrumental in

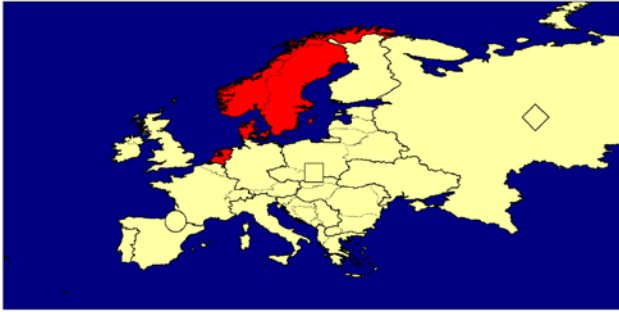
spreading Roman civilization throughout medieval Northern Europe.



Greek: The Greek region includes the Greek Islands and nearby maritime lands of the East Mediterranean and is genetically related to populations in the southernmost parts of Italy and Sicily. Home to the Hellenic city-states of classical antiquity, the Greek region is often considered the birthplace of European civilization.

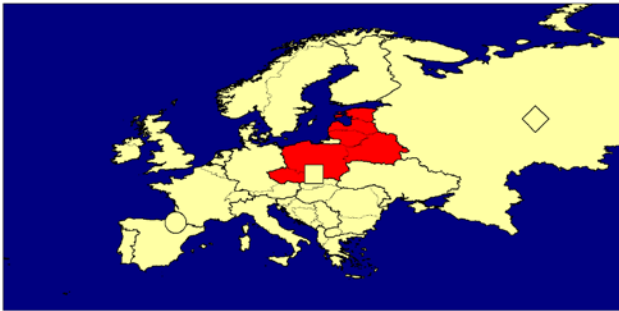


Italian: The Italian region includes the many provinces of the Italian Peninsula. This boot shaped peninsula is connected to Central Europe in the north and the East Mediterranean in the south, and is the historical seat of the ancient Roman Empire.



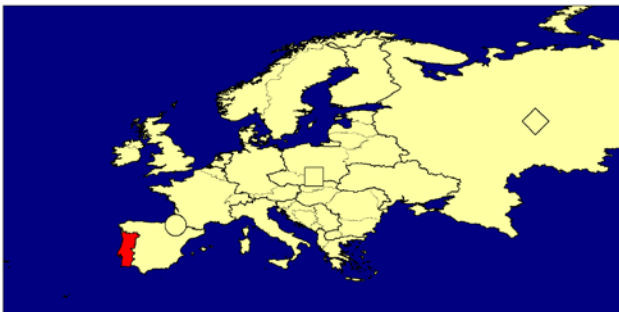
Norse: The Norse region includes the Northern Germanic-speaking territories of Scandinavia and the Netherlands. These lands were once also home to the cultures that founded Anglo-Saxon kingdoms in Britain and later produced the medieval Vikings, seafarers and adventurers who founded states in the British Isles and continental

Europe and traded in lands as far as the Volga River and Baghdad.

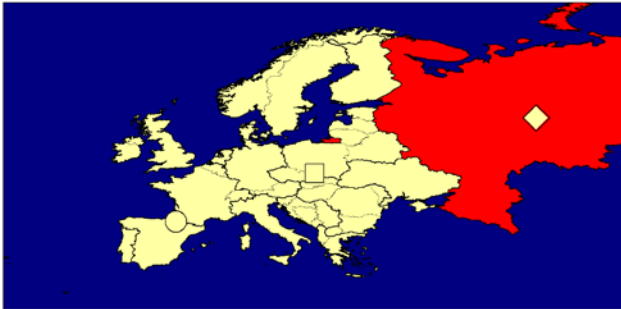


Polish-Baltic: The Polish-Baltic region includes the Central and Eastern European territories of the modern nations of Poland and Belarus, as well as the Baltic States of Latvia, Lithuania, and Estonia. This Slavic and Baltic speaking region is sometimes thought to be the birthplace of the Proto-Balto-Slavic cultures, but also includes

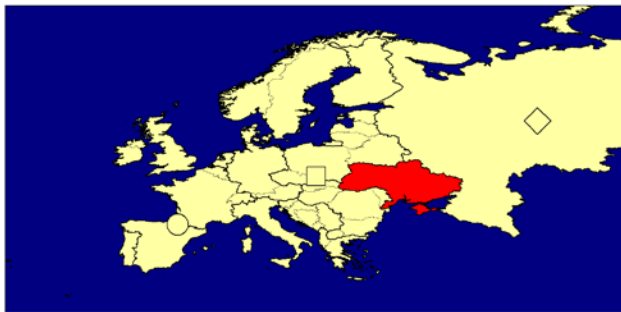
parts of the historical territories of Celtic, Germanic and Baltic tribes and peoples.



Portuguese: The Portuguese region includes the portions of western and northern Iberia facing the Atlantic Ocean. These maritime territories have been settled by Celtic and (later) Germanic tribes linked to Northern and Central Europe as well as by Romans, Moors and other Mediterranean peoples.

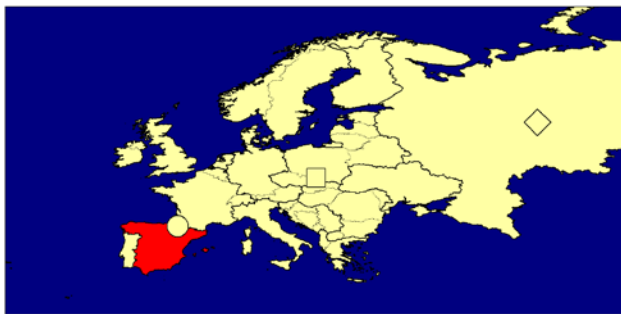


Russian: The Russian region includes historical land of Eastern Slavic peoples. It was here that early Kievan Rus' was first established by Scandinavian traders known as Varangians or Rus. This early state was composed of Slavic-speaking as well as Uralic-speaking peoples and later developed to become the seat of the Russian Empire.



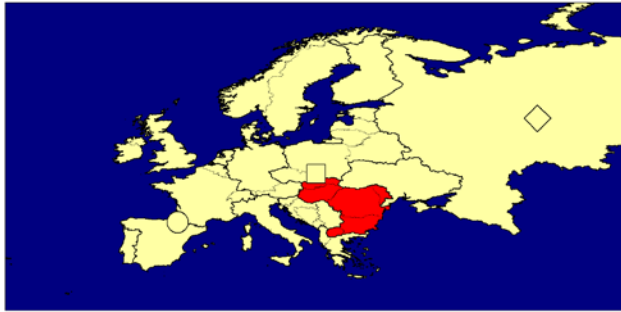
Scythian: The Scythian region includes the present day Ukraine and neighboring lands. It was here on the Pontic-Caspian steppe that the horse was first domesticated, and this zone has since been home to several mobile horse riding cultures: from the early Kurgan cultures to the Indo-Iranian speaking Scythians and Sarmatians

of antiquity to Slavic-speaking Cossacks of today.



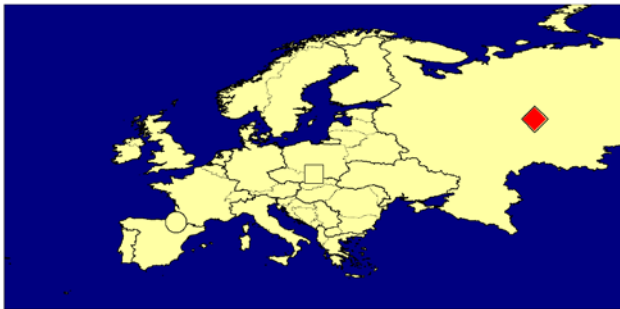
Spanish: The Spanish region includes the interior and Mediterranean coast of the Iberian Peninsula. The historical territory of Iberian and Celtiberian peoples, Spain has also been home to cultures including Romans, Visigoths and Moors. Spain is also thought to be the refuge of prehistoric peoples weathering the

Ice Age in Iberia and later repopulated Western Europe.



Thracian: The Thracian region includes territories along the western coast of the Black Sea and the Eastern Balkan Peninsula, home to the Thracians and related Dacians of classical antiquity. Later, the Latin speaking cultures in these lands became the present day Romanians (also called Vlachs or Wallachians by their neighbors),

who live here along with Slavic-speaking Bulgarians.



Urals: Named for the neighboring Ural Mountains that mark the eastern boundary of Europe, this mineral rich zone is today home to both Uralic-speaking and Turkic-speaking peoples. This region has been the staging ground for several historical contacts between Asia and Europe, including Hunnic and Mongol-Tatar invasions of the

classical and medieval periods.

About DNA Tribes® Europa Match Scores: DNA Tribes® Europa identifies the genetic sub-regions of Europe where your DNA is most common, along with match scores for other sub-regions of Europe. Europa analysis complements 22 or 26 Marker Kit reports with an analysis that is more robust than individual match scores (Parts B - C) and more detailed than European world region scores (Part D).

Your Europa MLI scores can be directly compared to your more general World Region Match scores (reported in Part D of your 22 or 26 Marker Kit report). In some cases, Europa analysis distinguishes scoring within general world regions, by identifying more specific sub-regions where a person's DNA is substantially more common than in the region overall or other nearby sub-regions. To put your MLI scores in context, Europa TribeScores indicate how your match scores compare to members of each European sub-region. TribeScores of (0.05) and above are within the expected range for a European sub-region, and TribeScores of (0.25) and above can be considered ordinary or typical for members of that genetic sub-region of Europe.