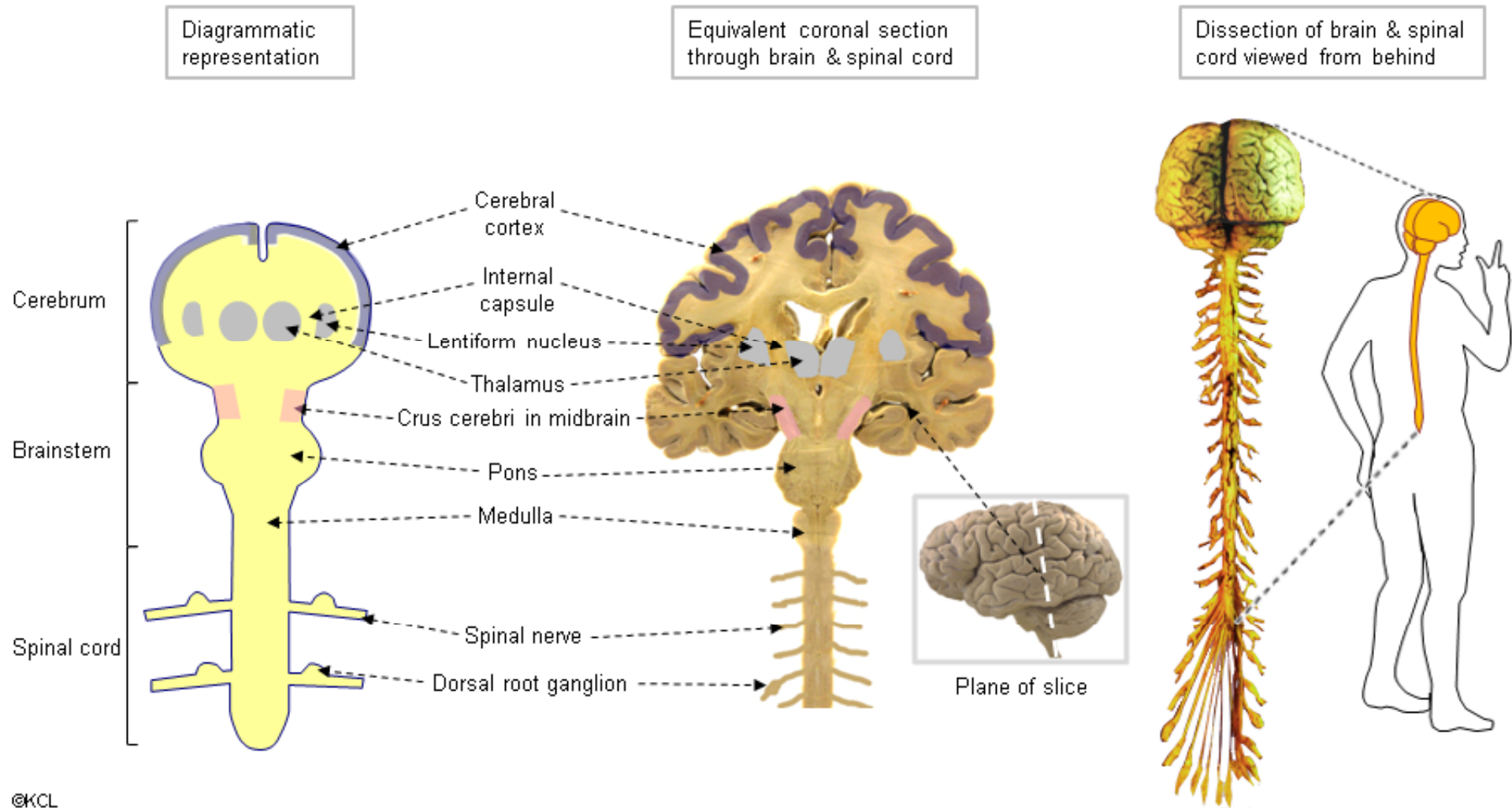
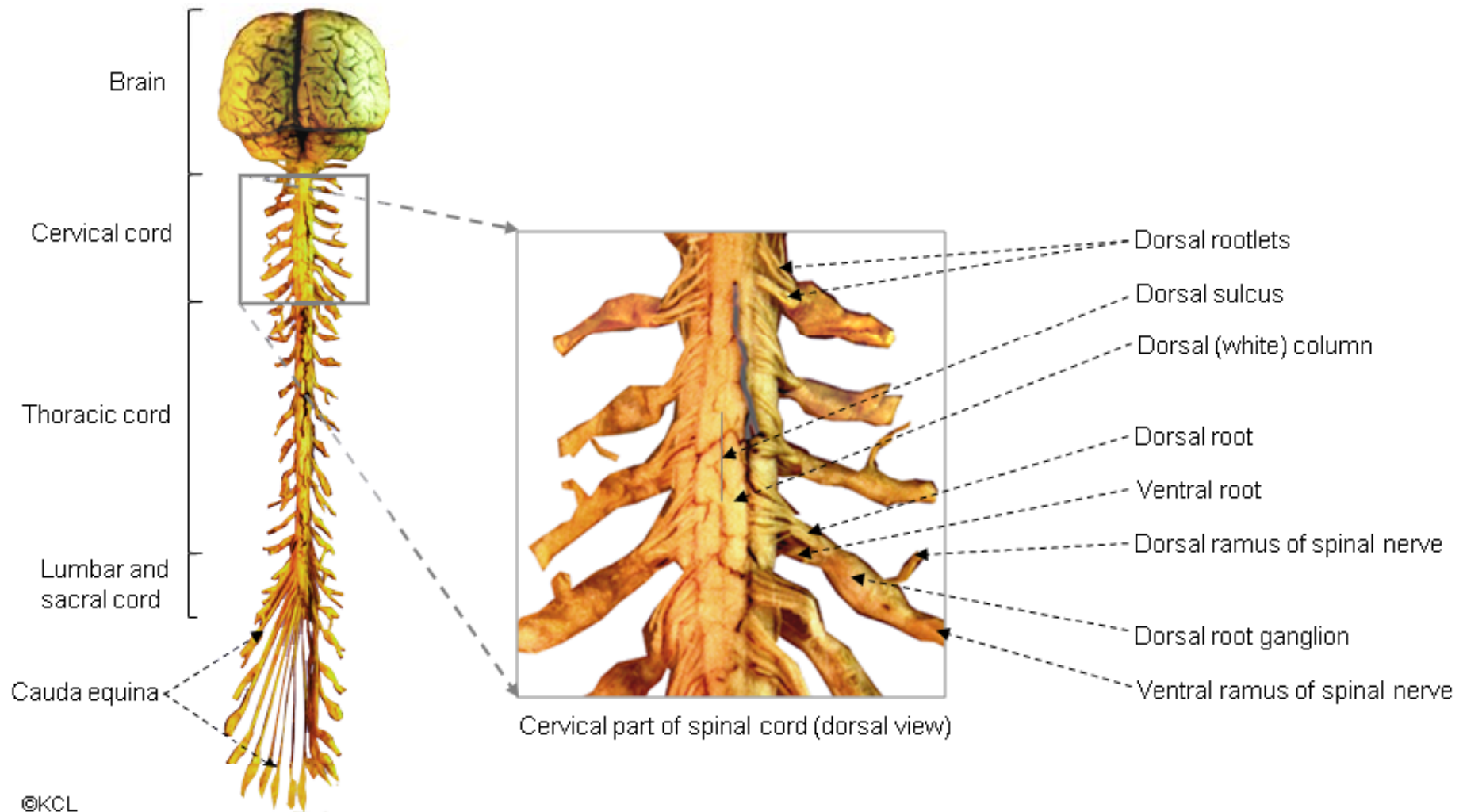


NA1 EXPLANATION OF DIAGRAMMATIC REPRESENTATIONS



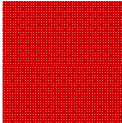



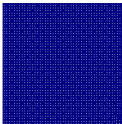
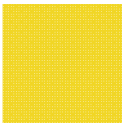

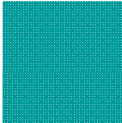
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For the purposes of illustration in this website, a highly simplified template is used to represent major structural landmarks in the brain and spinal cord relevant to the ascending and descending pathways. It is imagined that the brain and spinal cord are viewed from the back towards the front, so that in the diagrams, left and right are the same as for the observer. In most cases the cerebellum is not shown. The somatosensory cortex is coloured blue (as shown above) while the primary motor cortex is coloured red.



The brain and spinal cord have been dissected out and are shown above from a dorsal (posterior) view. An enlargement of the cervical part of the cord shows the spinal roots, dorsal root ganglia, spinal nerve rami (main branches) and the external appearance of the longitudinal dorsal columns of the cord.

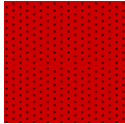
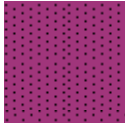
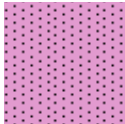
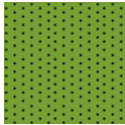

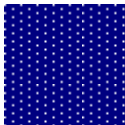

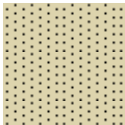

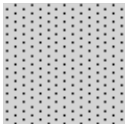
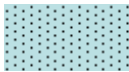
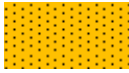

BRAINSTEM NUCLEI COLOUR CODE

Somatomotor nuclei		Oculomotor (III), Trochlear (IV), Abducens (VI), Hypoglossal (XII), continuous with ventral horns of spinal cord, motor cortex
Branchomotor nuclei		Trigeminal motor (V), Facial (VII), Glossopharyngeal (IX), Vagus (X), Cranial accessory (XI cr); continuous with spinal accessory nucleus of first 5 spinal segments
Visceromotor nuclei		Parasympathetic III, VII, IX and X (III= Edinger-Westphal nucleus, VII= superior salivatory nucleus, IX = inferior salivatory nucleus, X = dorsal motor nucleus of X)
Chemosensory nucleus		Nucleus of solitary tract (receives taste from VII, IX and X), Also visceral chemosensation from carotid body (IX and X) and from aortic receptors (X).
Somatosensory nuclei		Trigeminal nucleus continuous with dorsal horns of spinal cord, receives trigeminal sensation (V), and also general sensation from VII, IX and X. Somato-sensory cortex
Auditory nuclei		Cochlear nuclei (VIII), Auditory cortex
Vestibular nuclei		Vestibular nuclei (VIII)
Visual nuclei		Visual nuclei (CN II), lateral geniculate nucleus, auditory cortex, pre-tectal nucleus



Reticular nuclei and periaqueductal grey

BRAINSTEM and SPINAL CORD TRACT COLOUR CODE (Stippled)

Pyramidal tracts and somato-motor nerves		Cortico-spinal tracts (lateral and ventral / anterior), cortico-bulbar tract (together = pyramidal tracts); Some cranial nerves: (Oculomotor (III), Trochlear (IV), Abducens (VI), Hypoglossal (XII)); spinal motor nerves (ventral roots)	
Branchomotor nerves		Some cranial nerves: Trigeminal motor (V), Facial (VII). Glossopharyngeal (IX), Vagus (X), Cranial accessory (XI cr); continuous with spinal accessory nucleus of first 5 spinal segments	
Visceromotor (autonomic / parasympathetic) nerves and tracts		Parasympathetic III, VII, IX and X (III= Edinger-Westphal nucleus, VII= superior salivatory nucleus, IX = inferior salivatory nucleus, X = dorsal motor nucleus of X)	
Chemosensory tract and nerves		Solitary tract; taste and other chemosensory components of CNs VII, IX and X,	
Somatosensory tracts and nerves			Trigeminal sensory nerve, Trigeminal spinal tract, trigemino-thalamic tract, spino-thalamic tract, gracile and cuneate tracts, medial lemniscus, thalamo-cortical tract. spinal sensory nerves/nerve roots, general sensory components of VII, IX and X.
Auditory tracts and nerves		Cochlear nerve (part of CN VIII); Lateral lemniscus, auditory radiation; Inferior brachium of midbrain	
Vestibular tracts and associated tract and nerves		Vestibular nerve (part of CN VIII), vestibulo-spinal tract, medial longitudinal fasciculus.	
Optic nerve, and tract, Other visual connections.		Optic nerve (CN II), optic tract, visual radiation, etc	
Reticular nuclei connections + Midbrain connections		Reticulo-spinal tract, tecto-spinal tract, nigro-striate tract, rubrospinal tract	
			Cuneate tract
			Cerebellum
			Cerebellar nuclei Cerebellum-associated tracts: Ventral and dorsal spino-cerebellar tracts Spino-olivary tracts Cerebello-thalamic tract (incl. decussation) Ponto-cerebellar tract, etc