

AKT Kinase Family Analysis Report

1. DNA Sequence Previews

2. Protein Sequence Previews

AKT1 Protein Sequence Preview:

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>NP_001014431.1 RAC-alpha serine/threonine-protein kinase [Homo sapiens]  
MSDVAIVKEGWLHKRGEYIKTWPRPYFLLKNDGTFIGYKERPQDVDQREAPLNNFSVAQC  
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AKT2 Protein Sequence Preview:

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>NP_001626.1 amphiphysin isoform 1 [Homo sapiens]  
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AKT3 Protein Sequence Preview:

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>NP_005465.2 histone deacetylase 5 isoform 1 [Homo sapiens]  
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3. Multiple Sequence Alignment

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Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Population (millions)	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.5
GDP (trillion USD)	45.0	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0	93.0	96.0	99.0	102.0	105.0
Life expectancy (years)	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0
Urban population (%)	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0	72.0	73.0	74.0	75.0
Renewable energy (%)	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0
CO2 emissions (Gt)	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
Forest cover (%)	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0
Healthcare expenditure (GDP %)	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	8.8	9.0
Internet usage (%)	30.0	35.0	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0	98.0	100.0	100.0	100.0	100.0	100.0	100.0
Gender inequality index	0.60	0.58	0.56	0.54	0.52	0.50	0.48	0.46	0.44	0.42	0.40	0.38	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.22	0.20
Urbanization rate (%)	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0	72.0	73.0	74.0	75.0
Renewable energy investment (Bn USD)	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0
CO2 emissions per capita (t)	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
Forest cover loss (ha)	1000000	1100000	1200000	1300000	1400000	1500000	1600000	1700000	1800000	1900000	2000000	2100000	2200000	2300000	2400000	2500000	2600000	2700000	2800000	2900000	3000000
Healthcare expenditure (Bn USD)	22.5	25.2	27.8	30.2	32.4	34.0	35.8	37.2	38.8	40.2	41.8	43.2	44.8	46.2	47.8	49.2	50.8	52.2	53.8	55.2	56.8
Internet usage (Bn USD)	15.0	18.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0
Gender inequality index	0.60	0.58	0.56	0.54	0.52	0.50	0.48	0.46	0.44	0.42	0.40	0.38	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.22	0.20
Urbanization rate (%)	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0	72.0	73.0	74.0	75.0
Renewable energy investment (Bn USD)	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0
CO2 emissions per capita (t)	2.0																				

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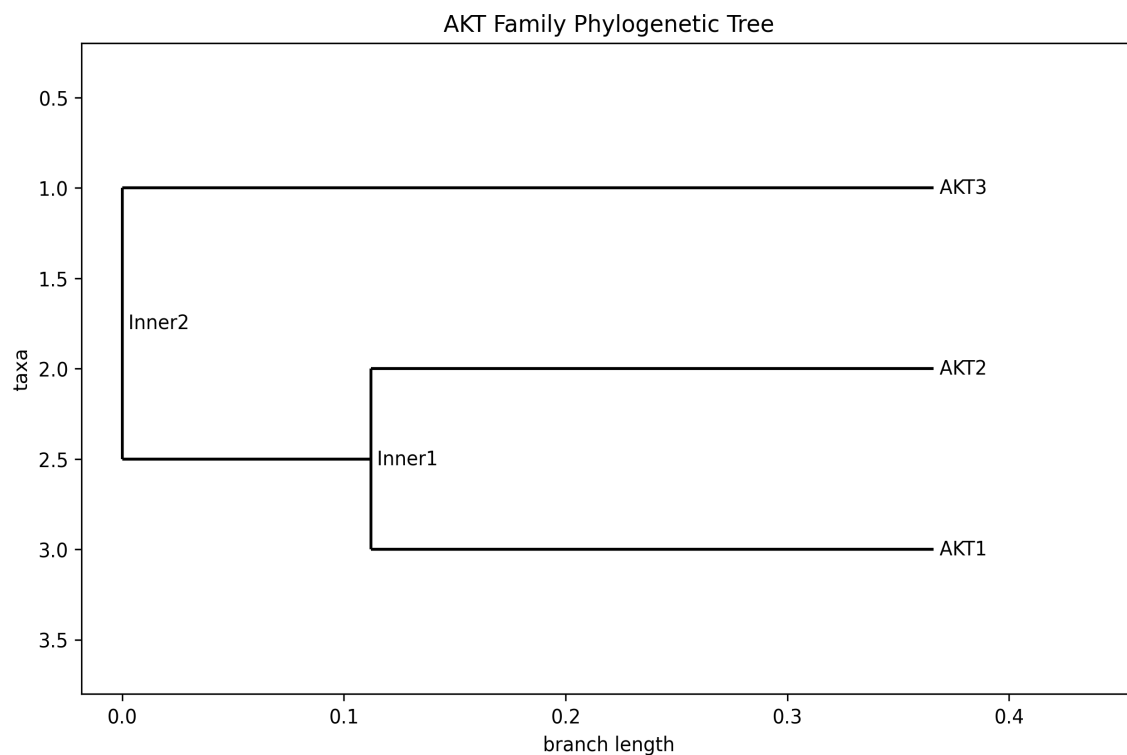
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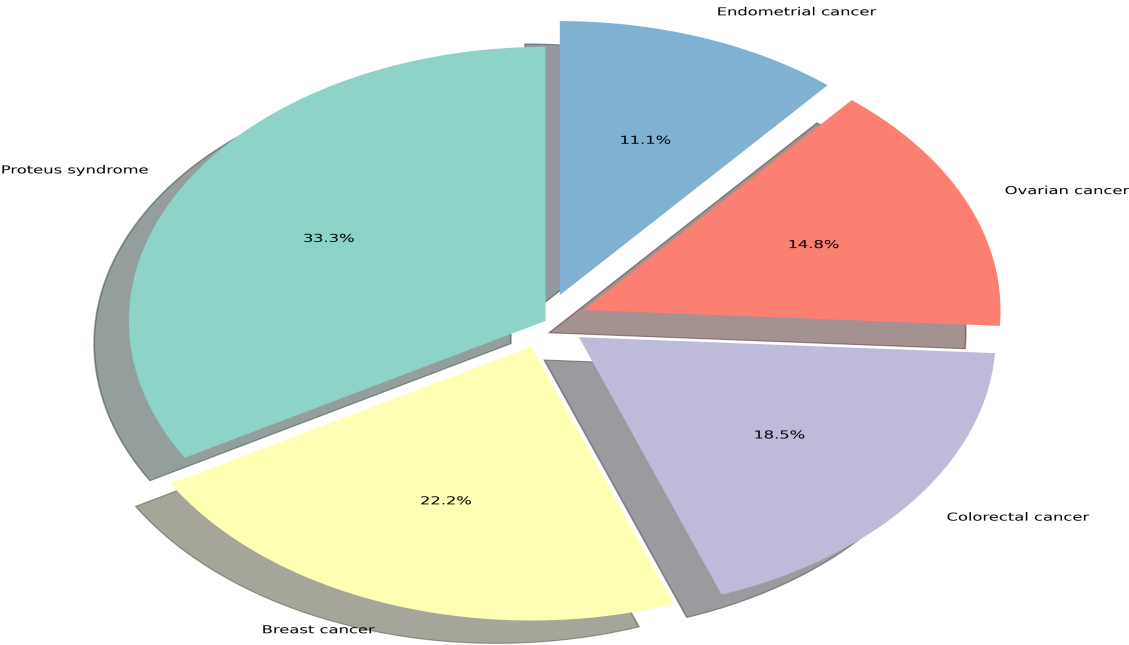
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5. Phylogenetic Analysis

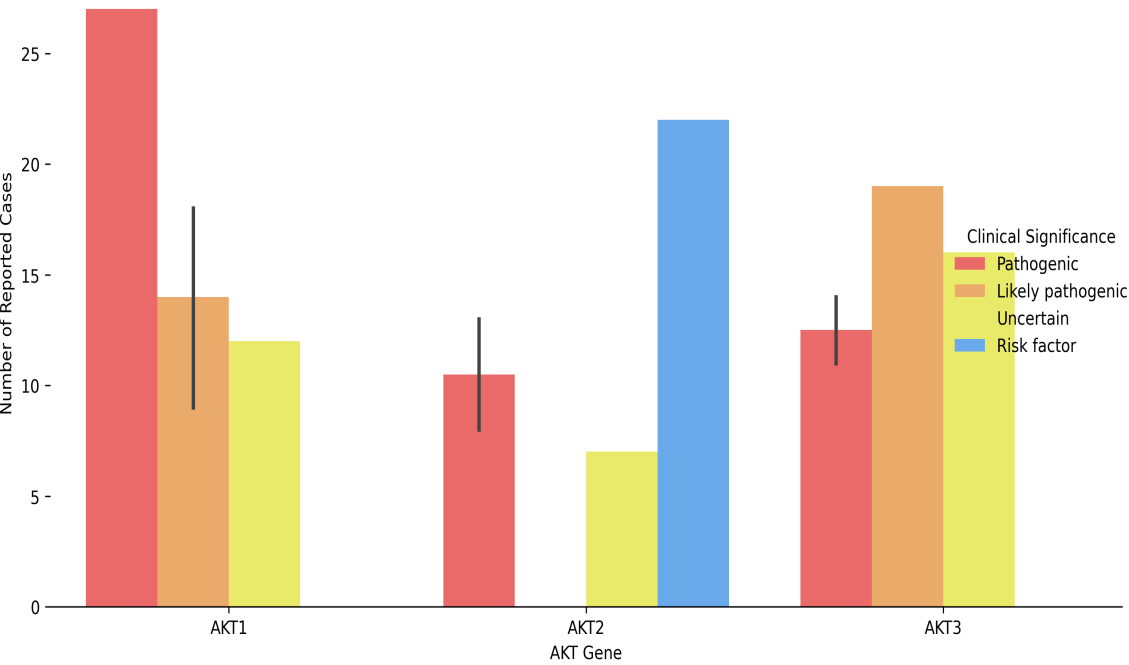


6. Disease Analysis

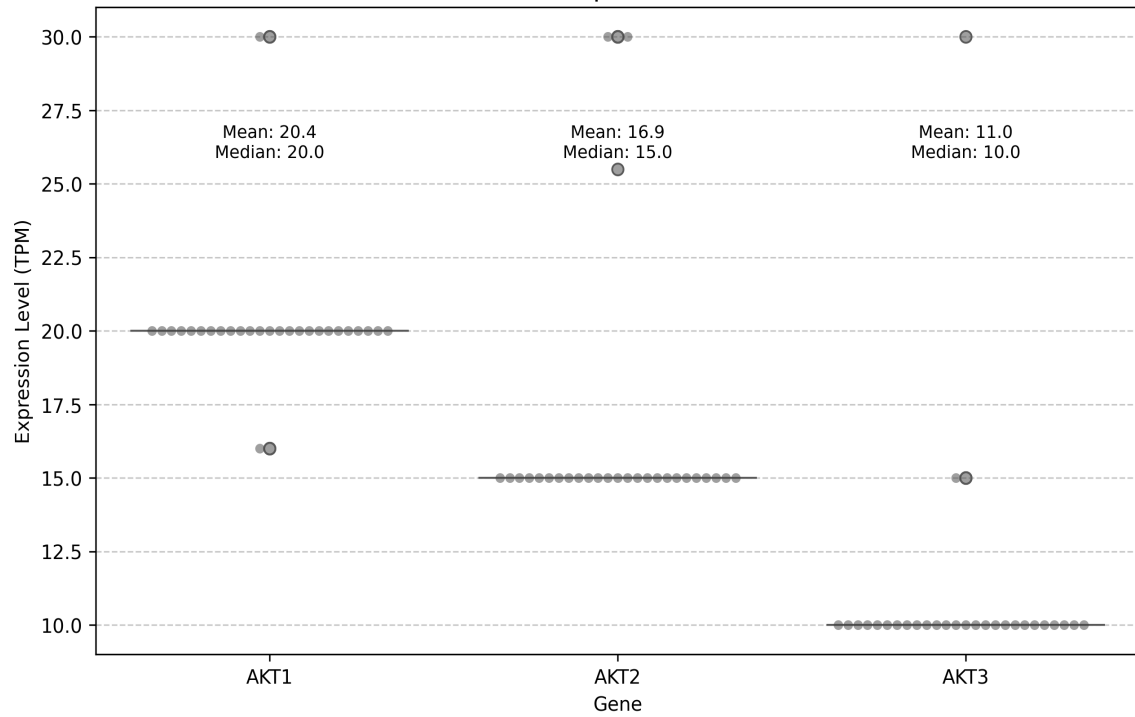
AKT1 Disease Distribution



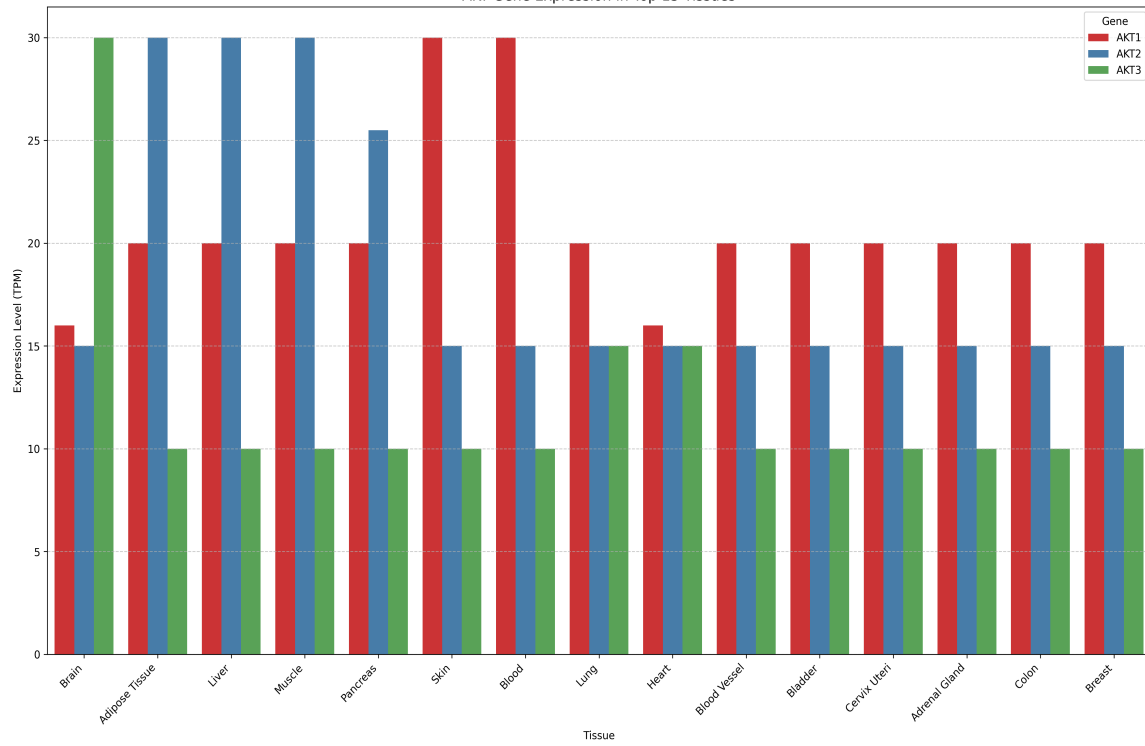
AKT Gene Family Disease Associations

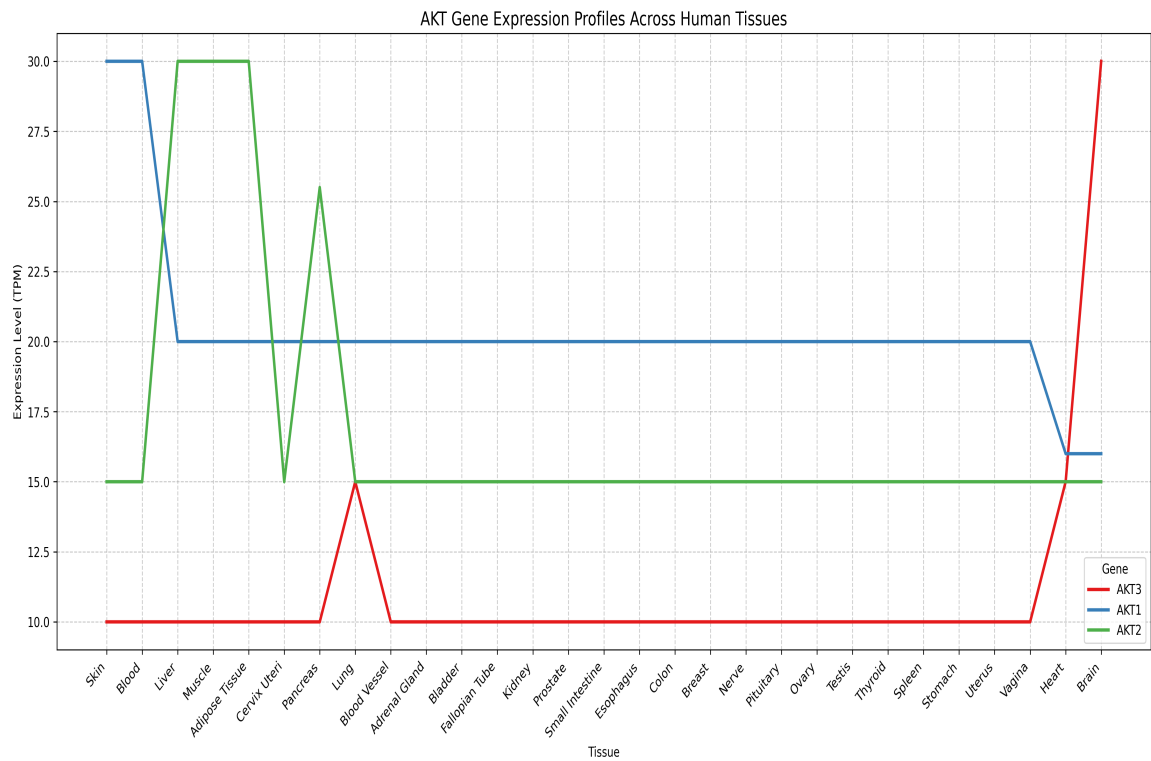


Distribution of AKT Gene Expression Across Human Tissues

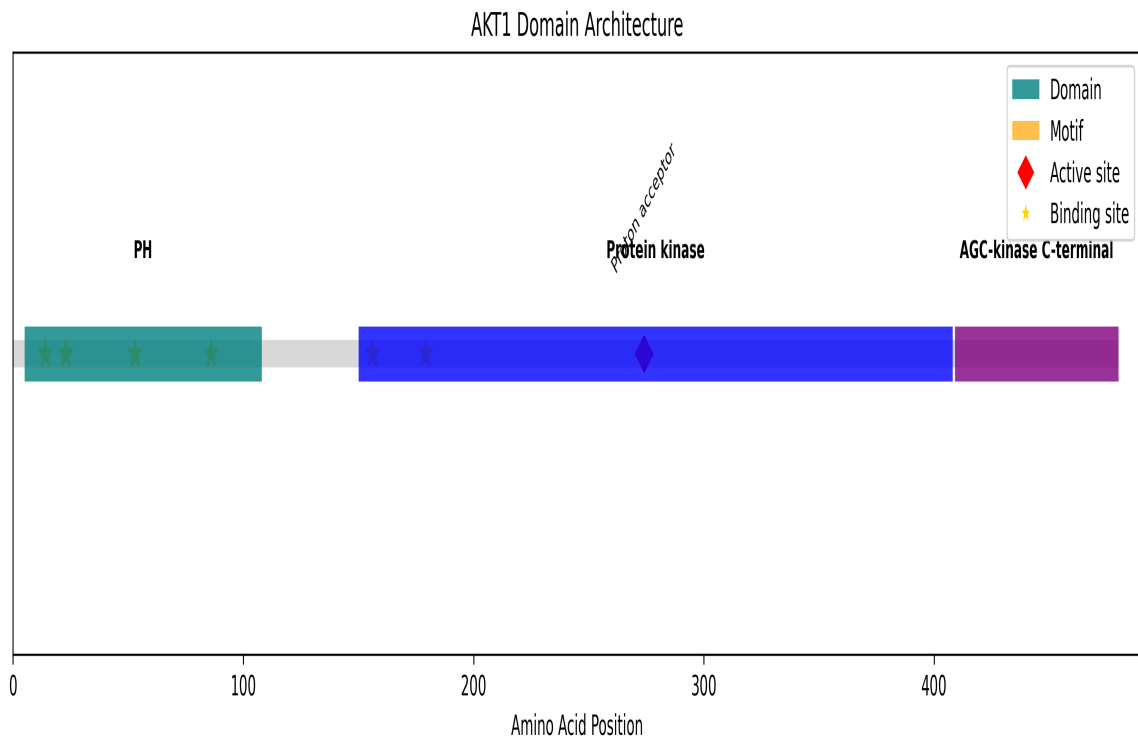


AKT Gene Expression in Top 15 Tissues

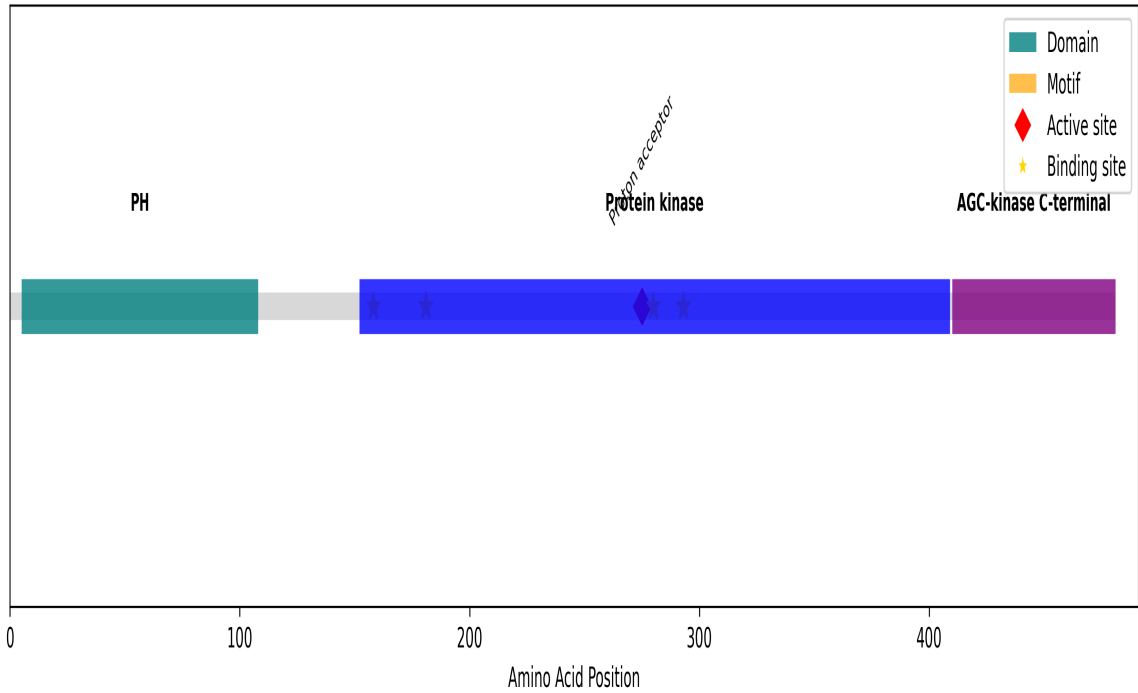




8. Structural Features



AKT2 Domain Architecture



AKT3 Domain Architecture

